The Hunterian Lectures

ON

THE TOPOGRAPHICAL ANATOMY OF THE ABDOMINAL VISCERA IN MAN.[1]

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LECTURE I.

Delivered on March 4th.

MR. PRESIDENT AND GENTLEMEN,—I thank you very much for the honour you have done me in electing me to deliver this course of lectures. I desire also, at the beginning, to express my warmest thanks to Dr. T. Claye Shaw and the resident medical officers of the London County Asylum, Banstead, and to Mr. Waters (the master), Dr. L. G. Hunt, and the resident medical officers of the Fir Vale Workhouse, Sheffield, for the very liberal manner in which for long periods they allowed me, with every possible assistance, to work in the mortuaries of these institutions. I am also much indebted to Dr. Leonard Giles of Scarborough for help with the appendix tables; also to Mr. A. M. Connell, the demonstrator of anatomy at University College, Sheffield, who throughout the preparation of the illustrations special to these lectures rendered me a constant and generous assistance which cannot be acknowledged too sincerely.

PURPOSE OF INQUIRY.

With the advance of medical and surgical science, especially as regards the operations of surgery on the abdomen, the topography of the abdominal viscera becomes of increasing importance. Any method of determining the position of the underlying parts should be as simple as possible, it should be convenient of application and should be applicable to a body of any size or condition, and it should, withal, as far as possible, make use of those terms of abdominal topography which have become established by custom and with the least possible disturbance of their present signification. Many accurate and extended measurements of the abdominal organs have been published at different times; but these, though exact in themselves, do not necessarily enable us to form an adequate anticipation of the shape or position of particular organs, if they themselves, or adjoining ones, abdominal or thoracic, are enlarged or diminished in size or altered in position through any cause whatever. The condition of an organ may be ascertainable on superficial examination, but in many cases this does not carry with it any exact information as to what we may expect to meet with in the neighbouring parts. These lectures embody the results of an inquiry into the topographical anatomy of the abdominal viscera in man. The work falls into two parts: (1) that dealing with the relations of the viscera to the surface of the body; and (2) that dealing with their relations to one another.

With regard to the first part, it is to be remarked that the methods of mapping out the abdomen at present in general use are open to certain objections, for the reason that the lines employed to divide the abdomen transversely are drawn at distances from one another which are variable and that the variations are not determined by the dimensions of the body. The points, especially, between which the upper transverse abdominal line is drawn are so variable in their level that in some cases the two transverse abdominal lines come very near together, leaving a large part of the abdomen above them not mapped out; whilst in other cases they may be far apart, and, moreover, it often happens in fat subjects that the points (such as particular rib cartilages) between which the upper transverse line is drawn cannot be accurately determined, and frequently the line if drawn correctly is not horizontal. The distance between the two transverse lines is usually much less than the distances above or below them, to the sternum and pubes respectively. Professor Cunningham[2] gives the average distance between them as 2·7 inches; the average depth of the costal zone, above the upper line, as six inches; and of the hypogastric zone, below the lower line, as five inches. Now six inches is too great a length without a guiding line in the costal zone, considering the very important structures contained in that region, if a line can be found therein which possesses a fairly constant significance. It has therefore been sought, first, to elaborate some system of abdominal surface-marking which shall be independent of variable surface points and which, whilst retaining those points as adjuncts, shall be unvarying and uniformly-proportioned to the size of the trunk; which shall be easily determined and in which the lines used to divide the abdomen shall be possessed of such constancy both in regard to the bony skeleton and the viscera that the lines themselves become reliable as landmarks.

With regard to the second part, it is of great clinical importance that in any case not only the position of any organ should be recorded, but that of all others in its neighbourhood; for in this way only can we discover the degree of independence or of interdependence in the position of the various organs and the extent, if any, to which when they are enlarged or diminished in size or displaced they tend to cause alterations in the positions of the various neighbouring parts. And it is perhaps as important to determine that changes in the shape or position of any one organ do not tend to cause alterations in the position of a neighbouring one as to determine that they do. In the second part of this inquiry, therefore, the abdominal viscera have been carefully mapped out in relation to well-defined, uniformly-proportioned surface lines, and by studying and comparing a series of cases it has been sought to ascertain, as far as possible, the modes in which the abdominal viscera alter their position or are displaced, when they themselves, or the viscera in their neighbourhood, are enlarged or diminished in size or pressed upon by the neighbouring parts.

DELIMITATION OF THE REGIONS OF THE ABDOMEN (FIG. 1).

In all examinations the subject was laid flat on the back, the legs extended in a straight line with the trunk, the arms drawn evenly down by the sides, and the head resting extended on the table. The abdomen is divided vertically by three lines—a median line and two lateral lines. The lateral lines are drawn vertically upwards, one on each side, through a point midway between the anterior superior iliac spine and the middle line, in a line drawn transversely across between the two anterior superior iliac spines. The median line is very useful both for the equal division of the abdomen and for purposes of measurement. The method for determining the lateral lines is more accurate than by taking the mid-point of Poupart's ligament, for that is a point which is not easy exactly to determine. Lines drawn obliquely upwards, such as those used by Professor Macalister,[3] from the spine of the pubes to the eighth costal cartilage seem objectionable because of the variations of the eighth costal cartilage and because the lines divide the abdomen unequally. The body is divided transversely by lines drawn across through points a quarter, a half, and three-quarters of the way along a line drawn from the upper border of the pubes to the supra-sternal notch. The uppermost transverse line passes across the thorax, as a rule 3·2 centimetres above the lower border of the body of the sternum. We are not further concerned with it. The upper transverse abdominal line, half-way from the pubes to the supra-sternal notch, is spoken of as the line E, F, and the lower transverse abdominal line—a quarter of the way—as the line C, D.

My purpose in selecting the transverse lines described was simply that of obtaining easily-found, equidistant points for the purpose of measurement and I was not prepared for the regularity of position in regard to the vertebræ and other structures which especially the upper line E, F, has been found to possess. It corresponds almost accurately to the disc between the first and second lumbar vertebræ, and cuts the junction of the eighth and ninth costal cartilages at the tip of the ninth. The lower line, C, D, practically corresponds

[1] The full details of the research on which these lectures are founded have been published in the Journal of Anatomy and Physiology, vols. xxxiii., xxxiv., and xxxv., and the author wishes to express his best thanks to the editors of that Journal for those illustrations which are reproduced in these lectures.

[2] Delimitation of Regions of Abdomen, Journal of Anatomy and Physiology, 1893.

[3] Text-book of Anatomy.

with Cunningham's intertubercular line drawn across between the two tubercles on the outer aspects of the iliac cresta, and passes, on an average, five centimetres above the anterior superior iliac spine and 3·5 centimetres below the highest point of the iliac crest. The consequence of this division of the abdomen, as will be seen on reference to Fig. 1, is that there are right and left epigastric, umbilical, hypogastric, iliac, lumbar, and hypochondriac regions, with the hypochondriac regions, as a rule, wholly beneath the costal cartilages. This strict limitation of the hypochondriac region will not, I think, be seen to possess any disadvantage, whereas the increase of the lumbar region is to be desired.

METHOD OF EXAMINATION.

For obtaining the maps of the viscera the bodies of 40 subjects taken consecutively were examined in the fresh state, with the exception of two control bodies which were hardened before examination by the injection of 5 per cent. of formic aldehyde solution. In all but a few cases the examination was made within 30 hours after death.

Tables were prepared in which the time after death was noted, and the condition of the nutrition of the body in such general terms as "emaciated," "fair," "good," or "fat," and any special pathological or other condition or obvious displacement or distension of organs were described, and on which, later, the state of the various viscera whether soft or firm, was specially mentioned. On the tables also were recorded the age, sex, causes of death, stature, the dimensions of the trunk in various directions, the distances from one another of the various bony and other surface points and their relations to the lines used to divide the abdomen, as well as many other general and particular facts.

The distances from the pubes to the supra-sternal notch were measured by drawing the tape tightly between these points. If the abdomen was convex between them the half-way point was marked directly; if concave, the spot directly beneath the mid-point of the tape was taken, and at this point, after a small skin incision, a long steel pin was driven through the abdomen. This marked the level of the upper transverse line E, F. In a similar way the level of the quarter-way line C, D, was determined and a second pin driven through the abdomen. The position of the lateral lines was then determined and four more pins were driven through the abdomen, one in each lateral line in the planes of C, D, and E, F.

FIG. 1.

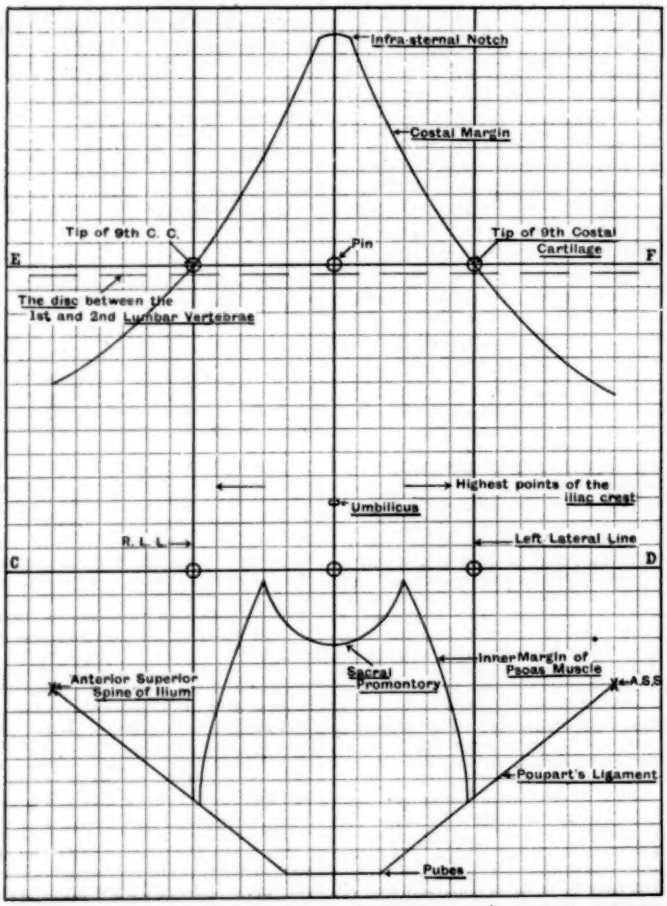


Diagram showing the average position of the landmarks whereby the abdominal regions are limited. E, F, is drawn transversely half-way and C, D, a quarter-way between the pubes and the supra-sternal notch. The vertical lines used are the middle line and two lateral lines, one on each side, drawn vertically upwards through a point midway between the anterior superior iliac spine and the middle line.

If the abdomen between the anterior superior iliac spines was convex forwards beyond them, or unequally distended as in the case of a distended cæcum, the measurement between the spines was taken on a forward projection and was confirmed on opening the abdomen. After opening the abdomen the distances vertically upwards from Poupart's ligament along the lateral lines, from the anterior superior iliac spines, and from the highest point of the iliac crests to the costal arch or ribs, and other measurements, were checked as they were come to, and a drawing of the costal arch was made. For this drawing the distances of the tips of the different cartilages from the infra-sternal notch were measured along the costal margin; the transverse width

of the arch in the plane of E, F, and between the tips of the tenth costal cartilages, or other suitable points according to the arch, was also taken, and the differences in level and width, if any, of the points cut by the lateral lines as they impinged on the arch and the line of E, F, as it passed transversely. At the conclusion of the examination the relations were obtained of the upper medium pin to the disc between the first and second lumbar vertebræ, and of the lower pin to the aortic bifurcation, to the disc between the fourth and fifth lumbar vertebræ, and to the pelvic brim in the middle line. Finally, the brim of the pelvis, as measured between the inner margins of the psoas muscles, was fully drawn in its relation to C, D, and Poupart's ligament. These different bony and other surface and deep points, with the lines used to divide the abdomen in their appropriate positions, were drawn on the life-size scale on large sheets ruled in centimetre squares in which the outlines of the various viscera were progressively filled in.

In this way a complete map of the superficial and deep points in their relations to the lines of division of the abdomen was obtained and the outlines of the viscera projected on to the surface in relation to the lines adopted could—if the lines were not found convenient—be transferred to any other system of surface divisions whatever. The steel pins used to transfix the abdomen are 14 inches in length, with a long, well-sharpened point and an expanded head, and as thin as is consistent with absolute rigidity. They were driven in with the utmost care and at right angles to the table. They were made so long in order that, as they project for some inches from the front abdominal wall, the slightest obliquity might be obvious. For it is clear that even a small degree of obliquity in the case of a thick abdomen would lead to the point of the pin entering the back wall a centimetre or more higher or lower as the case might be. It was, however, done so carefully that I think in the whole series the degrees of error will fairly correct one another. The median and lower lateral pins fasten themselves in the vertebræ and iliac bones respectively. The upper lateral pins which passed free of or through the costal cartilages, as the case might be, were driven into the table. The measurements of a part were taken immediately from a pin at the point of its transfixion with a stiff steel measure. The abdomen was opened by a median incision, and by lateral incisions in the planes of C, D, and E, F, as far as the pins, or farther outwards if necessary.

I need not detain you to describe the order of the examination of the parts, which necessarily varied somewhat in different cases. No parts were disturbed before being measured and drawn, and they were cut away piecemeal as required to expose the parts beneath. A complete map of the viscera and of the lines of the peritoneal attachments was at length obtained. Subsidiary drawings of peritoneal pouches and other parts were made as required, and at the end of the examination the parts at the back of the abdomen and the brim of the pelvis were filled in.

Two or three of the large ruled sheets were generally required for the records, and the examination, which occupied, as a rule, four hours or more, was often very difficult and laborious. Although 40 cases are presented and averages drawn from them, it is fully recognised that in the case of many of the averages much more extended observations are necessary.

SURFACE POINTS AND MEASUREMENTS.

The matter to be dealt with compels me sometimes to state averages and to give measurements, but I will try to trouble you as little as possible with figures. They have been fully analysed and set forth in the different tables.

There were 12 females examined and 28 males. The average age was 45½ years. The average height was five feet three and three-quarter inches, or about 160 centimetres. The average distance from the pubes to the supra-sternal notch was nearly a third of the height—viz., 52 centimetres, and this distance varied very little. In 65 per cent. of the cases the distance did not vary more than two centimetres from the average. The greatest distance was 58 centimetres (in a male five feet five inches in height), and the least distance was 46 centimetres. This occurred in two cases, in a male four feet six and a half inches and in a female four feet seven inches in height. The distance from the pubes to the supra-sternal notch, therefore, is not a very accurate guide to the height of the individual.

The average length of the abdominal part of the trunk was 35·8 centimetres, leaving the manubrium and body of the sternum a length of 16·2 centimetres, or about one-tenth (9·8 per cent.) of the total height of the individual. The average distance between the transverse lines was 13 centimetres or a little over five inches. (Refer to Fig. 1.) The infra-sternal notch averaged 9·8 centimetres or about four inches above the upper transverse abdominal line. The maximum distance recorded was only 11·5 centimetres, and it occurred only in two cases; the minimum distance, eight centimetres, was only recorded in two cases. In such a diversity of subjects, with so different characters of the chest and abdomen, this variation is small and would seem to indicate the serviceableness of the line E, F.

The upper transverse abdominal line (E, F).—The mid-point of the distances from the pubes to the supra-sternal notch was taken quite regardless of the condition of the body, whether fat or thin, with the abdomen or chest distended or not, and the regularity of the position which it is found to occupy is of much interest. Its average position was opposite the body on the first lumbar vertebra, 0·33 centimetre above the disc between the first and second lumbar vertebræ. The variations from the disc were very small; in 36 cases, or 90 per cent., the pin was less than two centimetres from it. The maximum distance away (2·5 centimetres) occurred only in one case. Considering the very important structures which overlie the vertebral column in this neighbourhood this regularity in its position renders the surface line of much utility. The line passed across in the average at the tip of the ninth costal cartilage on the right side and a little above it on the left. We find on comparison that the tip of the ninth costal cartilage had a somewhat wider excursion in relation to E, F, than the first lumbar inter-vertebral disc had. (Fig. 2.) In 30 cases, or 75 per cent., the level of the tip of the cartilage was not more than two centimetres from that of the surface line, and it happens that in a like number of cases it had an equal variation in regard to the first lumbar inter-vertebral disc. The greatest distance of the tip of the ninth costal cartilage from the surface line was three centimetres in two cases; there were, however, five cases in which it varied from three centimetres to five centimetres from the disc. The point of importance, however, is that we often cannot definitely locate the tip of the ninth costal cartilage until the skin and muscles have been reflected, whilst the surface line is found in a moment.

The lower transverse abdominal line (C, D).—In the region of the abdomen across which the lower—quarter-way—transverse line passes the bony points are more stable and the necessity of a transverse line apart from them is not pressing. However, the line C, D, occupied a very constant position in relation to the anterior superior iliac spines. In 35 cases, or 87·5 per cent., it did not vary more than one centimetre from its average distance of five centimetres above the spines. It averaged 3·5 centimetres lower than the highest part of the iliac crest, and in this relation also the variations were small, for in 31 cases, or 77·5 per cent., the variation was not more than one centimetre from the average. If we combine these last two statements it appears that the rise in the ilium from the anterior superior iliac spine to the highest part of the crest, as the subject lay on the table, was 8·5 centimetres, or nearly three and a half inches. The tilt of the vertebral column varies, and the part which, looked at from the front, would be selected as that where the spine definitely bends backwards into the pelvis, is variously the lower border of the fifth lumbar vertebra, the upper border of the sacrum, or the disc between these bones. This part in any case in the tables is called the sacral promontory. The line C, D, corresponded to the fifth lumbar vertebra 3·2 centimetres above the promontory. We will not stay to analyse the variations. They were a little wider than its variations in regard to the crest and anterior superior spines of the ilium. The average position of the *umbilicus* was about an inch (2·7 centimetres) above C, D. It varied from the same level up to 5·5 centimetres above, but in 21 cases, or 52·5 per cent., the variations were not more than one centimetre from the average. In 30 cases, or 75 per cent., the umbilicus was not more than one centimetre away from the level of the highest point of the iliac crest; but in the remaining cases the variation was as much as six centimetres. We may fairly say that the lower transverse abdominal line is as regular in its position in regard to the bony points as the umbilicus is.

The width across the *costal arch* in the plane of the line E, F, varied too much for the figures to be of any value, and it is evident that except at the upper part

of the arch it is of little use to describe the deep parts as being so much internal to, coinciding with, or as so much beneath the costal margin. The average distance between the two anterior superior iliac spines was 23·8 centimetres and the width across the body in the plane of C, D, was 29 centimetres. In rising five centimetres in level the iliac crests therefore had widened out one inch on each side. There were eight cases in which the distance between the anterior superior iliac spines was 22 centimetres or less, of which two were females. The smallest measurement, 19 centimetres, occurred in a man five feet four and a half inches in height and 52 centimetres from the pubes to the supra-sternal notch. There were seven cases, all males, in which the distance was 26 centimetres or more, up to 28 centimetres in three cases, the individuals in these being respectively 5 feet 2½ inches, 5 feet 10½ inches, and 5 feet 5 inches in height, and 55, 55, and 58 centimetres from the pubes to the supra-sternal notch respectively. The distance vertically upwards from the anterior superior iliac spines to the nearest part of the costal arch, which was almost invariably the tenth costal cartilage, ranged from 8·5 centimetres to 18 centimetres. This is another proof of the variableness of the costal arch; although it should be said that in 23 cases on each side the variation was not more than one centimetre from the average. In 17 cases the distance on the right side exceeded that on the left, and in five cases only was it less. In 16 cases, or 40 per cent., the tenth costal cartilage did not articulate with the ninth, and in most of these cases the twelfth rib was noticed to be small and difficult to feel. The average distance from the highest part of the iliac crest vertically upwards to the nearest rib was 4·8 centimetres, and 4·7 centimetres on the right and left sides respectively. The part met with was usually some part of the eleventh rib. In 33 cases the distances on the two sides were practically equal, and in five cases that on the right exceeded that on the left. The measurements ranged from three centimetres to eight centimetres, which is a wide variation in view of the small distance involved. It is interesting to notice that in the average the lateral lines, drawn vertically upwards, and the line E, F, drawn transversely, met the costal margin in identical points on each side—viz., the tip of the ninth costal cartilage.

AVERAGE POSITION OF THE VISCERA IN REGARD TO THE SURFACE (FIGS. 2 AND 3).

In regard to the surface marking of the viscera it is better that we should have clearly in our minds the general position of certain important points around which the parts can be arranged than that we should burden our memories with detailed measurements of individual organs.

A. The upper transverse abdominal line E, F.—Firstly, this practically bisects the stomach over the middle line and the pylorus a little further to the right. Reference to the outlines shows that in 29, or 72·5 per cent., of the cases the line was absolutely reliable as a guide to the pylorus, passing either through it or at one of its margins. Secondly, it represents at its intersection with the middle line the lower border of the liver. This observation, however, is perhaps of no special importance since the lower border of the liver can usually be made out by palpation and percussion. Thirdly, at its intersection with the right lateral line it marks the place where the gall-bladder overlies the duodenum, and, when the liver is not enlarged or displaced downwards, it usually passes a little above the highest part of the ascending colon. Fourthly, about half-way between the middle line and the left lateral line it marks the upper border of the duodeno-jejunal flexure and the upper end of the root of the mesentery. The duodeno-jejunal flexure is perhaps the least moveable part of the small intestine, for the outlines of the duodena on the reduced scale show that in 34, or 85 per cent., of the cases it was not more than two centimetres away from the surface line, one way or the other. Fifthly, it follows from what has been said from its relation to the pylorus that the line almost invariably crosses some part of the head of the pancreas, usually about the upper third. Moreover, in the left lateral line, the anterior border of the pancreas in 70 per cent. of the cases was within two centimetres of this line. In fact, it may be said that in the left lateral line at this level are found, in the absence of manifest distensions of the stomach or intestines, the greater curvature of the stomach as it passes beneath the costal arch, the anterior border of the pancreas with the attached transverse meso-colon, and the upper border of the transverse colon itself. Sixthly, further to the left beneath the ribs the line crosses the basal surface of the spleen.

B. The lower transverse abdominal line C, D.—First, it represents at points half-way between the middle line and the lateral lines the place where the psoas muscles diverge from the lumbo-sacral promontory, and, on the left side, the line passes a little above the inner attachment of the meso-sigmoid; secondly, in the right lateral line it marks the upper border of the ileo-colic junction; thirdly, in the left lateral line it marks the inner border of the descending colon just above the commencement of the meso-sigmoid.

C. A plane across the abdomen midway between the transverse lines corresponds nearly enough in each lateral line to the lower pole of the kidney, passing a little above that of the right and a little below that of the left. In the right lateral line, also, it indicates the commencement of the transverse meso-colon, and in the middle line the root of the mesentery as it crosses from left to right.

A few points concerning the surface markings of individual viscera may be mentioned.

1. *The stomach.*—After the œsophagus has pierced the diaphragm it frequently passes downwards and to the left for a short distance before opening directly into the stomach. The position found to be occupied by the cardiac orifice, beneath the seventh costal cartilage about an inch from its junction with the sternum, agrees with that generally given. The stomach passes from the cardiac orifice upwards and to the left into the vault of the diaphragm and reaches its summit in the left lateral line just below the fifth costal cartilage. By the summit of the stomach is meant that part which is highest *in situ*; for if the stomach be removed from the body and distended it is often found that that part which was previously the highest is now not so, but a portion of the stomach which was previously on a posterior plane.

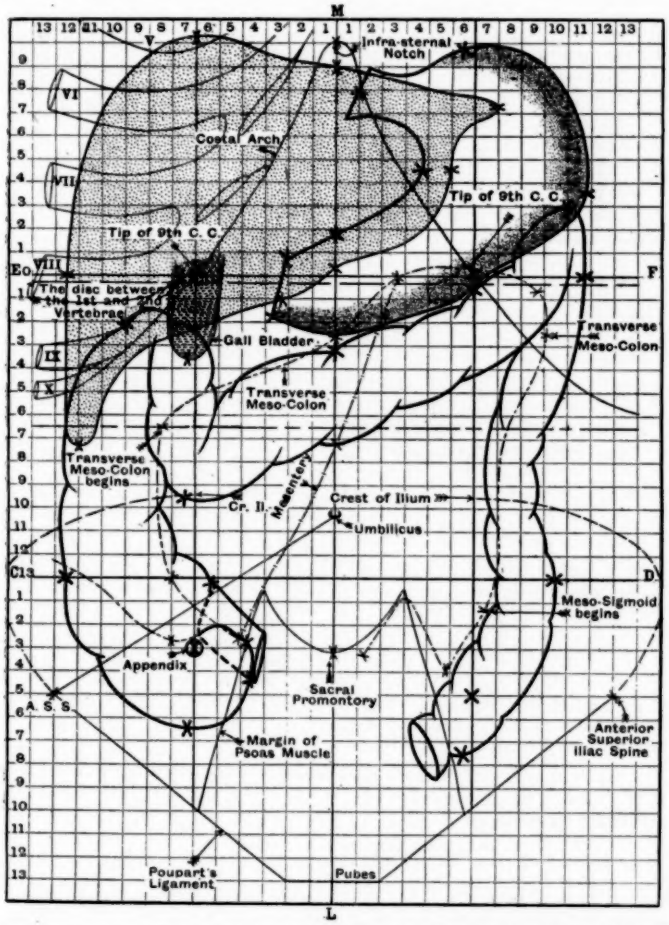
2. *The duodenum.*—The duodenum may be roughly mapped out by constructing a parallelogram which has for its sides the middle line, the line E, F, the right lateral line, and the line drawn transversely half-way between the transverse abdominal lines (see Fig. 3). The upper, outer, and lower sides of the parallelogram respectively bisect the first, second, and third parts of the duodenum, whilst the fourth part inclines to the left of the inner side of the parallelogram. It is, of course, to be remembered that the duodenum only commences about an inch to the right of the middle line. In the right lateral line the second part of the duodenum reaches nearly down to the highest part of the iliac crest.

The root of the *mesentery* extends from a point midway between the middle and left lateral lines in the plane of E, F, downwards and to the right to the inner margin of the right psoas muscle at a point midway between the planes of the anterior superior iliac spines and of the C, D, rather nearer to the right lateral than the middle line. The *lower end of the ileum* is commonly firmly fixed in its position and the upper border of the ileo-colic junction is marked by the intersection of the right lateral and lower transverse abdominal lines. The *root of the appendix* generally lies near the lower border of the ileo-colic junction in the right lateral line about the level of the lower end of the mesentery. It is usually an inch or so below the mid-point of a line drawn from the anterior superior iliac spine to the umbilicus. The lowest point of the *cæcum* is usually in the right lateral line well below the level of the anterior superior iliac spine. A line drawn vertically upwards from the right anterior superior iliac spine represents accurately enough the outer border of the *ascending colon*. The inner borders, both of the ascending and descending colon, are more constant in their position as regards the surface than the outer borders lying generally a little outside either lateral line. The *transverse colon* as it crosses the middle line is variable both in its shape and position. It is, in a general way wholly in the umbilical regions, and, in the average, its lower border reaches to midway between the transverse abdominal lines. The first (or firmly attached) portion of the *sigmoid colon* begins a little outside the left lateral line just below the level of C, D, and the freely moveable part, which has a long mesentery passing upwards along the left pelvic brim, begins in the left lateral line about the level of the anterior superior iliac spine.

The solid viscera.—What has been said of the duodenum indicates the position of the head of the *pancreas* and we have seen that the line E, F, represents the anterior border of the pancreas in the left lateral line. Nothing need be said

bare of the surface-marking of the *liver* except that its left extremity usually reaches a little beyond the left lateral line behind the sixth costal cartilage and its highest part on the right side is behind the fifth costal cartilage in the right lateral line. The upper transverse abdominal line E, F, crosses the *right kidney* at the junction of its upper with its middle thirds and the *left kidney* at the junction of its upper two-fifths with its lower three-fifths, and the lateral lines traverse the kidneys vertically about a third of the way from their inner to their outer borders. The highest part of the *spleen* in front is marked by a point in the left lateral line behind the sixth costal cartilage.

FIG. 2.



Outline figures showing the average position of the abdominal viscera on a centimetre scale; reduced to 0·36 natural size. The lines of the peritoneal attachments are also shown. The crosses (× ×) indicate the position of the various "points" referred to in the text. The lettering is the same as in Fig. 1. (From a drawing by C. W. Smith.) *Note.*—The arrow showing the tip of the ninth right costal cartilage should have been drawn pointing to the intersection of E, F, and the right lateral line. The lower border of the stomach and the upper border of the transverse colon in the left lateral line should have been each represented 0·5 cm. lower down.

The further details of this part of the subject are perhaps more usefully set forth in the various tables and illustrations than in any other way—especially in Figs. 2 and 3. We will pass on to consider the positions and displacements of the different viscera in detail, commencing with the stomach.

THE STOMACH.

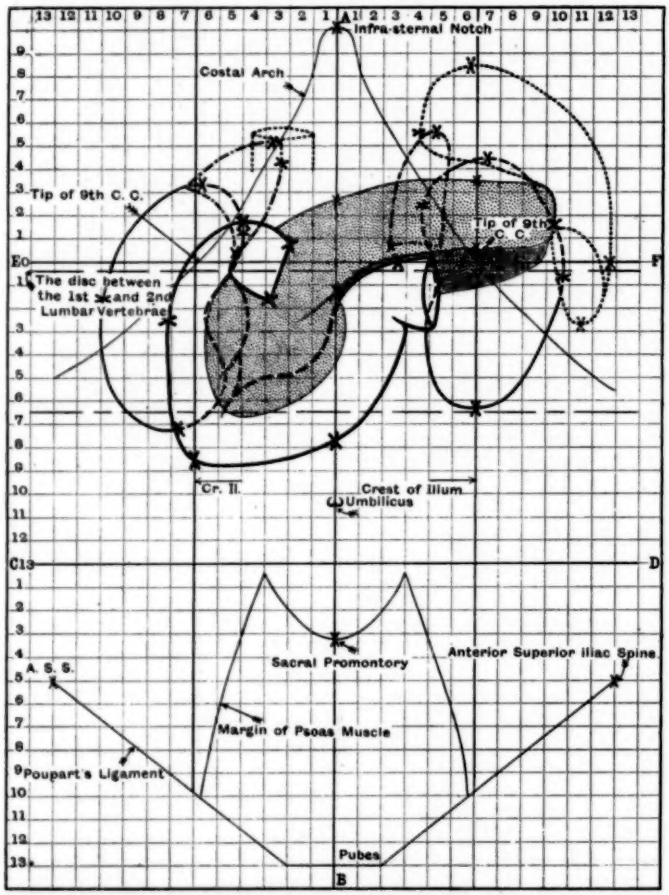
The relations of the stomach anteriorly to the liver and transverse colon are best referred to as we consider its different displacements. The part of the stomach which is in immediate relation with the anterior abdominal wall is very variable in its extent and position. It may apparently most certainly be approached in the plane of the upper transverse line about midway between the middle and left lateral lines.

1. *Variations of the shape of the stomach* (Fig. 4).[4]—The outline of the stomach as seen from the front does not necessarily indicate what would be its shape if it were removed from the body and filled. Its shape is no doubt in a great measure determined by the pressure of adjoining viscera, but allowing for this the cases do perhaps furnish some indications of certain natural varieties in shape. The first variety consists of a type of stomach usually not of large size and characterised by a long cylindrical portion passing to the pylorus. It is, perhaps, the commonest. It was well marked in 11 cases and less so in six others, or in 42·5 per cent. of the total cases. Sometimes the shape was plainly due in a large measure to the pressure of the transverse colon. We remark that the stomachs of this type contain amongst them all those in which the stomach was highly placed and, coincidently with this, all those in which a distended transverse colon passed highly upwards in front of the stomach. The frequency with which this occurred—viz., in nine cases, or nearly one in four—is, I think, of clinical

[4] This figure, along with others, will appear with the second lecture and will contain selected examples of the outline of the stomach from selected cases to illustrate the different points referred to.

interest. In other cases also of this group the transverse colon was distended though not in front of the stomach. It is clear that a distended transverse colon was associated very commonly with this shape of the stomach and presumably was to some extent responsible for it. It is, however, open to suggestion, seeing, for instance, that the stomach from Case 1 (which was a good example of this type) still retained its shape after removal from the body and being filled with agar jelly, whether this type of stomach, being mostly small, does not, if the colon becomes distended, invite the bowel, as it were, to seek its additional room in the upper part of the abdominal cavity, so that a distended colon high in the abdomen may not alone be the cause, but perhaps, to some extent, the consequence, of a stomach this shape. Eight of the subjects with this type of stomach were emaciated and had suffered from long-standing disease. As to the second variety, six of the stomachs show very well, and three others imperfectly, evidence of a constriction somewhere in the cardiac portion that would no doubt have been permanent. The constriction, when present, tends to be about half-way along the left border of the greater curvature. The interior of these stomachs was not examined. In regard to a third variety, eight of the stomachs which were apparently chronically distended were almost evenly cylindrical. They will be referred to again. A quadrilateral shape of the stomach was presented in some cases (No. 16) and there were of course many types intermediate between those described.

FIG. 3.



Outlines of the deeper abdominal viscera constructed on the same plan as those shown in Fig. 2. (From a drawing by C. W. Smith.)

2. *Variations in the Position of the Stomach.*

The cardiac orifice. — The general position of the centre of the cardiac orifice was two centimetres below the infra-sternal notch and one centimetre from the middle line. It had, however, an excursion of seven centimetres about the infra-sternal notch, from six centimetres below to one centimetre above. In three instances only (Nos. 4, 12, and 34) the centre of the cardiac orifice was above the infra-sternal notch. The first patient had died from phthisis; the stomach was large and full; there is no record of distension of the rest of the intestine, and the transverse colon was low and tortuous. The second case was one of pneumonia; the jejunum and cæcum were very distended; the transverse colon was full and the splenic flexure reached high up into the vault of the diaphragm to the left of the stomach. The third case was one of phthisis with some tuberculous peritonitis; the small intestines were very distended; the transverse colon was in its normal position; the liver was very large and extended to the left across the stomach overlapping the spleen. Taking the extreme cases the other way; there were six cases in which the centre of the cardiac orifice was four centimetres or more below the infra-sternal notch (Nos. 7, 15, 18, 27, 30, and 35). The first was a case of right pneumothorax, with the liver and stomach pushed down. The second case presented a large intra-thoracic tumour, with a similar displacement of the stomach and liver. In the third case the costal arch was narrow but there is nothing recorded from the thorax to account for the low cardiac opening; and in this case, although the upper border of the stomach was lower than usual, the lower border was higher than the average, being supported by distended small intestines above a low transverse colon. In the fourth

case there was a large secondary sarcomatous growth in the thorax, especially on the left side; the transverse colon was distended and low down. In the fifth case there was no special factor recorded; the small intestines were distended, but the transverse colon was low down, running across the pelvic cavity. The last case was one of advanced phthisis, and in this, as in the third case, the lower border of the stomach was higher than the average; but the cause of the displacement of the upper border downwards was quite obvious, for a huge transverse colon had passed up in front of the stomach, pushing the liver over to the right and insinuating itself between the stomach below and the diaphragm above.

Conclusions.—The chest conditions, as we should anticipate, are the most important in producing downward displacements of the cardiac portion of the stomach, even against considerable intestinal distension below. Upward displacements are usually associated with distension of the intestines and often with a large transverse colon passing upwards in front of the stomach. On the other hand, distension of the intestines, even when there is absence of any obvious thoracic opposition, is not always associated with a raised cardiac orifice. The distension of the transverse colon, in fact, in the last case was the actual cause of the downward displacement of the cardiac orifice. A comparison of the relative levels of the cardiac and pyloric orifices does not reveal any point worth noting.

The pylorus.—If the diagrams on Fig. 4 be consulted it will be seen that in 29 cases, or 72·5 per cent., the line E, F, passed either across some part of the pylorus or within 1·5 centimetres of one of its margins. 1. *Vertical displacements.*—There were 29 cases in which the upper border of the pylorus was in the plane of, or above the level of, E, F, and 11 cases in which it was below. In five of the first group of cases the pylorus was more than three centimetres, up to 6·5 centimetres, above E, F. These cases we will call those of "high position." In six of the last group of cases the pylorus was more than two centimetres, up to 6·5 centimetres, below E, F. These we will call the cases of "low position." The total excursion of the pylorus about the plane of E, F, was 13 centimetres. In four of the five cases of high position the colon was distended and passed upwards to a variable height in front of the stomach, and in the other case (No. 5) a distended jejunum pressed the stomach up. In these cases also the liver was pressed upwards and to the right by the distended intestines, and was noted to be small in three of the cases. Five of the six cases in which the pylorus occupied a low position presented a liver either large or displaced downwards. In two cases there was a large lardaceous liver; in one case an immense liver was pushed downwards by a large growth filling the right side of the thorax; in another case the liver was displaced downwards by a right pneumothorax, and in the remaining case there was a large and somewhat low nutmeg liver. In all these cases the stomach was distended and vertically elongated. In all of the cases there was a low prolapsed transverse colon, but in three of them there was a considerable interval between the upper border of the prolapsed colon and the greater curvature of the stomach, in which the stomach was supported behind the mesocolon by small intestines.

Low positions of the stomach.—Those cases in which the pylorus reached low down in the abdomen include amongst them most of those in which the stomach, as a whole, was low down, but not all. It will be convenient to take at this place those other cases in which the stomach itself was lowly situated whilst the pylorus was not depressed. A stomach may be full—in fact, distended—without coming appreciably lower in the abdomen, as outlines 9, 10, 16, 23, 28, and 29 on Fig. 4 show. It appears to be the stomach which is vertically elongated (however that elongation may have been produced) which is found low down, and its low position is usually associated with a liver enlarged or displaced downwards and with a low or prolapsed transverse colon. In Case 38 all the parts were loaded with fat and the gastro-intestinal canal was very capacious; the stomach was very flabby and of immense size and came 10 centimetres below E, F, in the middle line. The liver in this case was not enlarged and occupied its normal level, and the pylorus was at its usual height. The transverse colon ran along the lower border of the stomach to the left lateral line, when it passed upwards beneath the stomach to its splenic flexure, which was situated above the level of E, F. In Case 39 the stomach was eight centimetres below E, F in the left lateral line. There was a large liver extending low down on the right side, but with only a thin flap overlying the stomach to the left of the middle line; a distended transverse colon passed across below the greater curvature of the stomach. In this case the upper border of the pylorus was situated in the plane of E, F, 0·75 centimetre to the right of the middle line. In Case 30 similar conditions prevailed, though they were not so exaggerated, and the transverse colon was prolapsed.

Conclusions.—1. From the foregoing cases it appears that a highly placed stomach is usually associated with the liver placed well up beneath the ribs, and often small, and with a highly-placed transverse colon, which in most cases also is distended. As regards the transverse colon, however, it appears that it may come upwards in front of the stomach without appreciably raising the whole stomach, merely pressing it backwards into the stomach bed. 2. A low position of the stomach—referring to the greater curvature—appears to be specially associated with the liver extending low down in the abdomen and perhaps enlarged and with a low transverse colon. But the transverse colon, by an increase in the length of its mesentery, may sink away from the stomach, which may be supported at its usual level by the small intestines behind the long transverse mesocolon. 3. The liver is clearly chiefly responsible for causing alterations in the level of the pylorus. When the liver extends low down in the abdominal cavity the pylorus is generally lowly situated, and *vice versâ*. Moreover, allowing for the fact that the part of the liver overhanging the stomach varies considerably in thickness, it appears that *mere distension of the stomach, apart from a low position of the liver, is not sufficient to produce material downward displacement of the pylorus.*

A Clinical Lecture
ON
THE TREATMENT OF TUBERCULOUS PERITONITIS.

Delivered at the Medical Graduates' College and Polyclinic on Dec. 19th, 1900,

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GENTLEMEN,—I propose to call your attention in this lecture to the particulars of three successive cases of tuberculous peritonitis which were treated by a form of *medical* treatment which I shall describe to you and which I think merits your attention as the patients in all three cases made excellent recoveries.

The results that have of late years been obtained in the treatment of tuberculous peritonitis, as at present carried out, afford, I think, much cause for congratulation and satisfaction to the representatives of modern medicine. It would not be easy to point to any disease in which, as compared with 50 years ago, the prognosis has so greatly improved. Sir Thomas Watson, one of my distinguished predecessors in the chair of Medicine in King's College, in his well-known lectures, when referring to cases of this disease, says: "These are very unpromising forms of disease and it is seldom that we can do more than mitigate the most distressing of the symptoms, or retard, perhaps, the march of the disorder ..... do what we may, *in nine cases out of 10*, our best directed efforts will be disappointed." Much more recently Dr. Bristowe, in his "Text-book of Medicine," wrote of this disease in a scarcely less despondent tone. He says: "Tubercular peritonitis tends, as a rule, to a fatal result; at the same time there are good grounds for belief that recovery occasionally occurs." Even so recently as 1894 Professor Dieulafoy writes of this disease: "Death is almost always the consequence; a cure is, however, possible."[1]

How great an improvement has taken place in the treatment of cases of tuberculous peritonitis may be judged from the fact that statistics show that now over 50 per cent. of these cases recover, and there seems to be good reason to

[1] Manuel de Pathologie Interne, seventh edition.

hope that as modern methods of treatment become better known and earlier applied still more favourable results will be obtained. We doubtless owe some of this improvement to the vast progress which has been made in recent years in abdominal surgery, dependent on the better knowledge we possess as to the immunity with which operations on the peritoneal cavity may be undertaken provided it is protected from septic infection. But my object in this lecture is to show that progress has also been made in the *medical* measures which are applicable to the treatment of this disease. We know much more now about the pathology and clinical history of tuberculosis than we did 25 years ago and our knowledge is daily growing more and more complete.

The teaching of Louis and his followers that tubercle of the peritoneum was never *primary*, but always *secondary*, to pulmonary tuberculosis has only recently been called in question, and strange to say this doctrine is still maintained in the most modern of our systems of medicine and we read there that "a primary tuberculous peritonitis is of very doubtful existence and the disease is probably never limited to the peritoneum. ..... Most commonly an eruption of tubercle on the abdominal serous membrane is secondary to pulmonary tuberculosis and caseating lymphatic glands in the thorax."[2] But Osler[3] has shown that this view is no longer tenable and that a tuberculous affection of the peritoneum is often primary. It was so in five out of 17 of his necropsies—i.e., in 30 per cent. And if this was the proportion in the fatal cases one might expect a much larger proportion in those that recover. This is a very encouraging fact from the point of view of therapeutics, as it must be far more hopeful to have to deal with an *uncomplicated* tuberculous peritonitis than to have to deal with tubercle of the peritoneum complicated with tubercle of other organs. Indeed, it would be very difficult to understand the success that has undoubtedly attended laparotomy in treating this disease if it were true, as has been taught, that tubercle of the peritoneum is almost invariably secondary to tubercle within the chest. Moreover, it has been shown that tubercle bacilli can pass through the wall of the intestine into the peritoneal cavity without attacking the former.

In answer to the question, "How does the tubercle bacillus reach the peritoneum?" Dieulafoy gives this reply: "Most frequently it enters by the *intestine* where it has been introduced in the food—infected meat, infected milk. The bacillus may attack the intestine first and the peritoneum next, but *absorbed by the superficial lymphatics* of the mucous membrane, it *may attack primitively the serous membrane*. This appears to have been proved by the recent experiments of Wesener and Cornil. ..... Debroklousky has demonstrated that the bacillus can pass through the walls of the intestine and reach the peritoneum without a primary lesion of the intestine."[4] This observation points to a very probable cause, and a preventable one, of many cases of tuberculous peritonitis—viz., the consumption of infected milk. In one of the cases which I have to relate to you the occurrence of this disease was believed to have been traced to the use of milk from a cow which was subsequently found to be tuberculous; and it was at least possible, if not probable, that infected milk may have been the cause in the other two. With these few preliminary remarks I will now ask your attention to the particulars of the three cases, the treatment of which I wish to bring to your notice.

CASE 1.—In the middle of June, 1898, a girl, 13 years of age, was sent into King's College Hospital, under my care, by Dr. Raymond Crawfurd, who had been attending her at the Victoria Hospital for Sick Children, and the diagnosis sent with the case was that it was one of tuberculous peritonitis and pleuritis. Besides the physical signs of an effusion of fluid in the right pleural cavity we had also in this case the symptoms of acute tuberculous peritonitis. The patient presented much abdominal swelling and tympany and much abdominal pain and tenderness; she was also much emaciated. It was also noted on admission that the cheeks were flushed, that the skin was hot and perspiring, the tongue dry and furred, and the breath offensive. The pulse was rapid, small, and compressible. There was dulness at the base of the chest on the right side for about a hand's breadth, with absence of breath sounds and absence of vocal fremitus. The abdomen, as has been said, was distended and painful and tympanitic all over, except in the flanks and the hypogastric region, where there was dulness which changed its position on moving the patient from side to side and which was no doubt due to the presence of fluid in the peritoneal cavity. There was also troublesome diarrhœa and the motions were offensive and contained undigested food. The temperature was of the hectic type and very characteristic of tuberculous disease. The chart for the first week after admission indicated that the daily range of temperature was as much sometimes as 6° F., the morning temperature falling to 97·2°, and the evening temperature rising to 103·2°. The previous history of this case pointed to a comparatively sudden onset. The family history was very good and the child had had no previous illnesses. She was quite well a month before admission into the hospital. At that time she began to complain of abdominal pains of a "griping" character which came on suddenly and "doubled her up" as her mother expressed it. The abdomen was observed to have become swollen and there was severe diarrhœa. The taking of food immediately brought on both pain and diarrhœa. It was also noticed that the child sweated freely at night. There could be no doubt that we had to do with a case of tuberculous peritonitis, very possibly due to the consumption of infected milk, and the pleural effusion was most probably also of tuberculous origin.

With regard to treatment the indications were clearly first to allay the pain and catarrhal irritation of the bowels, and secondly, to combat, if possible, the tuberculous infection. She was therefore ordered a mixture to be taken every six hours, containing in each dose 15 grains of salicylate of bismuth, 15 minims of spirit of chloroform, half a drachm of compound tincture of cardamoms and some mucilage and water, and to have milk diet. At the same time a liniment was applied to the abdomen consisting of three parts of opium liniment and one part of tincture of iodine. This treatment diminished the frequency and the offensiveness of the evacuations and relieved the pain, so that our attempt to carry out the first indication was, to a certain extent, successful. How, in the next place, were we to give effect to the second indication—viz., to combat the tuberculous infection? I had found in former cases of tuberculous peritonitis—or cases diagnosed as such—that had been under my care that recovery had in some instances appeared to follow the use of iodine or iodoform applied freely to the abdominal surface as well as given internally; therefore four days after this child's admission I ordered a mixture of equal parts of iodoform ointment and cod-liver oil to be rubbed in freely over the abdominal surface twice daily; and a week after admission the bismuth mixture was discontinued and a pill containing a quarter of a grain of iodoform and half a minim of creasote was given thrice daily. The patient at first made little or no notable progress, and it was not until about the middle of July—nearly four weeks from the date of her admission—that the motions had become normal, no longer offensive, and quite formed. The temperature also showed a marked improvement. She was therefore allowed some solid food in the shape of eggs, or custard, or fish; but with this change in the diet the diarrhœa returned and the motions became offensive and the temperature rose and again assumed the hectic type. We therefore had again to return to the liquid diet. On weighing the patient we found that during the time she had been in the hospital she had lost nearly 12 lb. We, however, persevered with the treatment and by August 4th the motions had again improved in appearance and the temperature had fallen to normal. But this improvement was not steadily maintained, for by the middle of August the child's weight had diminished two pounds more and she had had another return of diarrhœa but not a severe one; it was noted at this date that the fluid had disappeared from the right pleural cavity and the chest conditions had become normal. There was now no complaint of abdominal tenderness nor any dulness in the flanks, but there was a trace of albumin in the urine which soon disappeared. About this date a slow and steady but unmistakeable improvement began to set in. On the 24th it was noted that for the first time since her admission she had gained a little in weight. She was then allowed a little solid food (bread in soup and bread-and-butter). Mr. J. C. Briscoe, the house physician, to whom I am indebted for these notes, observes that between August 25th and the 30th "there was a slight attempt at a return of the hectic temperature," but by Sept. 1st the temperature had become normal and had remained so. She had now

[2] Allbutt's System of Medicine, vol. iii., p. 658.
[3] Practice of Medicine, third edition, p. 286.
[4] Manuel de Pathologie Interne, vol. ii., p. 608, seventh edition.

been under treatment in the hospital for more than 10 weeks. On Sept. 7th it was noted that the improvement was maintained; her weight had improved from 4 st. 12 lb. to 5 st. 1 lb. and she was then put on ordinary diet. The bowels and the temperature were normal. During the next fortnight the improvement became very marked. On the 12th she was able to get up and recline on the couch, and on the 21st the local application of the mixture of cod-liver oil and iodoform ointment was discontinued having been kept up for three months. A teaspoonful of cod-liver oil was given three times a day. On the 30th her weight had increased to 6 st. 3½ lb. On Oct 8th the creasote and iodoform pills were discontinued and on the 15th the patient was discharged—so far as could be judged—cured. Her weight was then 6 st. 8 lb.

Now one important point in the treatment of this case is the persevering manner in which we applied our remedies. The local application of iodoform ointment and cod-liver oil was continued uninterruptedly from June 17th to Sept. 21st, more than three months, and the iodoform and creasote pills were given from June 21st to Oct. 8th. When, owing to the commencement of the vacation, I discontinued my visits to the hospital at the beginning of August, I was by no means sanguine as to the results of the treatment. There had been relapses from time to time and a return of some of the characteristic abdominal symptoms and the patient continued to lose flesh and to look very ill—notwithstanding that she had been six weeks under treatment. On July 29th it had been noted that the temperature had again risen and had again assumed the hectic type. The bowels also had again become loose and the motions offensive. Even on August 13th there was a relapse in the condition of the bowels, but only in a slight degree, and there was no notable rise of temperature. The weight, however, had fallen to 4 st. 12 lb.

I can imagine an impatient medical attendant becoming dissatisfied with the progress of the case and sceptical as to the ultimate value of the treatment. But there were one or two points that were distinctly encouraging. The fluid had disappeared from the right pleural cavity and there were no longer any abnormal signs about the chest. The abdominal swelling and tenderness were less and there had been an improvement in the temperature. Still, when I handed over the care of this case to my representative on my departure for my holiday, as I have already said, I was by no means sanguine as to the result. When I returned to the hospital in the beginning of October I was not a little gratified and perhaps somewhat surprised to have presented to me a bright-looking, well-nourished, active girl, with the appearance of perfect health and to be told that this was the same patient I had left two months before a wretchedly ill, emaciated, shrunken, and exhausted child. Instead of weighing as she did then 4 st. 12 lb. she now weighed 6 st. 8 lb.

A point of some interest in this case was the co-existence of pleurisy with effusion—no doubt of tuberculous nature. The frequency with which tuberculous pleurisy accompanies tuberculous peritonitis has been remarked upon by many authors, and especially by Dieulafoy and Osler, and its occurrence under these circumstances is easily explicable on account of the close lymphatic connexion between the two serous cavities.

I do not quite agree with those French pathologists and physicians who maintain that "probably the greater number of primary pleurisies are tuberculous," but I am more disposed to accept their teaching that "pleural tubercle is eminently curable, thus resembling the peritoneal form." My belief is that all primary pleurisies are either *tuberculous* or *rheumatic*, and that the rheumatic toxin, whatever that may be, is responsible for a goodly number, at any rate, in this country. And this belief is founded on bedside observation—on the fact that the symptoms of the pleurisies which I call rheumatic disappear rapidly on the administration of salicin or the salicylates. I agree, however, that pleural and peritoneal tubercle are "eminently curable"—indeed, this is the truth I am now concerned in enforcing, and before I have done I shall call your attention to a suggestion that meningeal tubercle may in course of time come to be included in the list. In the serous membranes it seems possible to encounter the tubercle bacillus unaccompanied by any other pathogenic organism and amenable, therefore, to simpler and more direct methods of treatment. In the lungs it is too frequently associated with other active pathogenic microbes, and therefore presents in advanced stages a far more complex and more difficult problem to the physician.

CASE 2.—The next case to which I wish to call your attention was a very interesting one, but as it occurred in private practice and as no special or continuous notes were taken you will not expect me to enter into any minute details. Soon after the occurrence of the case which I have just related to you I was summoned by an eminent surgeon to see with him a young lady upon whom he had a fortnight before performed an abdominal operation. The history he gave me was an interesting one. This patient had suffered for some time from abdominal pain and discomfort of an obscure nature. She had consulted one hospital surgeon who diagnosed the presence of a dermoid cyst and recommended its removal. Subsequently she was seen by the eminent surgeon who called me in and he diagnosed the existence of appendicitis and an operation was undertaken for its relief. When the surgeon opened the abdominal cavity he was astonished to find that the case was one of tuberculous peritonitis in a somewhat advanced stage. Not only was the peritoneum thickly studded with tubercles, but the walls of the intestines seemed also to be largely involved. He thought the prognosis under these circumstances was very unfavourable. A fortnight after the operation he called me in to the case, referred to the case I have already related to you, which had been mentioned to him, and asked me to take charge of his patient and to do the best I could for her. At that period there was no sign that any benefit had resulted from the operation but rather the contrary. The patient was very ill, very weak, and exhausted, with severe diarrhœa and a temperature ranging between 103° and 104° F. My first effort was by means of appropriate remedies to endeavour to control the diarrhœa which was serious and exhausting. This in the course of four or five days I succeeded in doing. I then began the iodoform applications to the surface of the abdomen, freely applied twice daily as in the preceding case. I also gave the patient iodoform and creasote in pills internally. She soon began to improve, the diarrhœa entirely ceased, and the temperature in a few weeks became normal. After five weeks of this treatment she was well enough to be removed to the seaside. She was kept under observation for a considerable time and she continued to improve with occasional drawbacks which I need not now enter into. She is at present quite restored to health.

There are two very interesting points in the history of this case deserving our consideration. 1. As to the difficulty in diagnosis. There had never been any suspicion in this case of the existence of tuberculous peritonitis until the operation revealed its presence. This has frequently happened before in similar cases. So latent is this disease in its onset in some instances and so obscure are its early symptoms that abdominal section, undertaken for quite other conditions, has often disclosed its existence; indeed, we may say that we were indebted to this circumstance originally for the suggestion that laparotomy might be a cure for certain cases of tuberculous peritonitis.[5] I may also mention that there was no family predisposition to tuberculous disease in this case; indeed, after the discovery of the nature of the malady an investigation that was made seemed to point to its originating in the consumption of milk from a tuberculous cow. 2. Another interesting question to consider is, Did the surgical operation promote the cure of this case? Indirectly it certainly did, for it led to the discovery of the tuberculosis, and had not this been discovered we can hardly doubt that the patient's life would have been imperilled. I have already told you the condition of the patient when she came under my care. But before I attempt to estimate the value of surgical operations in the treatment of tuberculous peritonitis I should like to mention very briefly my third case and then return to this point.

CASE 3.—A few weeks after the patient in the last case had become convalescent I received a telegram asking me to meet a medical man in the west of London. He explained to me that he was only acting as locum-tenent, that the case had been handed over to him by a professional neighbour who was away on his holiday (it was the middle of August). He said, as was true, that the case was a desperate one and that he had no hope of recovery. I am unable to give you a very precise or detailed

[5] In 1862 Sir Spencer Wells on opening the abdomen for ovariotomy found the case to be one of tuberculous peritonitis; the result of the error was that the patient was cured.

history of the case under these circumstances, but I understood that the child (it was an only daughter about 11 years of age) had been ill only a few weeks, that the illness had been more or less an acute one, and that the diagnosis of the case arrived at by his absent neighbour after consultation with a well-known physician, and from the symptoms observed, was perforation of the bowel. He further stated that he had himself had the advantage of consulting with a hospital surgeon as to the advisability of an operation, but the surgeon did not consider it advisable on account of the great prostration and unpromising aspect of the patient. The little patient was, indeed, extremely ill. She could retain no food whatever, either given by the stomach or by the rectum. Attempts to feed her by the rectum were followed always in a short time by the return of the food mixed with fæcal matter. The child was terribly emaciated and the abdomen was much distended and tympanitic. The pulse was small and rapid. I found on inquiry that she had been staying recently at the seaside and had been in the habit of drinking milk from a source which might have been infected, although nothing was certainly known nor had any suspicions on this head been aroused. After a careful examination of the case I pointed out to the medical man in attendance that there was nothing in the case inconsistent with the view that it might be one of tuberculous peritonitis of an acute form. There was a certain amount of bright intelligence about the child notwithstanding her wretched physical condition which seemed to me of somewhat favourable import. I gave some instructions in regard to the best methods of attempting to feed the child and I strongly advised the rubbing in of iodoform ointment to the abdominal surface and the administration by the mouth of pills of iodoform and creasote. These measures were most thoroughly carried out by the medical man and the skilful nurse in attendance. About a fortnight afterwards I received a letter from the medical man in attendance to the effect that the child had borne the treatment exceedingly well, had retained the pills, had no longer either diarrhœa or vomiting, was beginning to gain flesh, and, in short, that there was a "wonderful change." I saw the patient a day or two after this and the change was certainly very remarkable. The child was bright and cheerful; she was taking fluid food well and readily. The abdominal distension had greatly diminished and there was little or no pain on pressure. I happened to be leaving London for Scotland that same evening and I did not see this patient again, but I have been informed that she steadily improved and made a complete recovery.

I have thought a brief account of these three cases might be worthy of your attention, as they are not picked cases, but occurred in close succession within a few months of one another. The patients were all treated in the same way and they all made good recoveries. They were all desperately ill and of a disease which not so very long ago was regarded as a very fatal one.

There is one circumstance in connexion with the cases I have related to you which I am disposed to think is a very important one from the therapeutic point of view—that is, they were all more or less acute cases, two of them markedly so, and they were in young people between 10 and 20 years of age. I have certainly seen this method fail to produce any marked curative effect when applied in very chronic cases of the dry adhesive type and in older persons. And, as we shall presently see, these are also the cases in which the results of surgical operation are far less favourable than in ascitic cases in the early stage. Indeed, it is the old, old story that what is an efficient remedy for a disease in the early stages often fails to be so in the more advanced periods; and this is easy to comprehend. In these advanced chronic cases, and especially in patients of riper years, the conditions essential to the curative action of a remedial agent are probably absent. In such cases the facility of the diffusion of an antitoxic or anti-bacterial agent into the affected tissues may be very much less than in a patient of tender years and in attacks of recent origin. Variations in absorbability, variations in the resistance and reaction of tissues, variations in the antecedent conditions of the solids and fluids affected, must necessarily entail variations in the activities of remedies, but which are none the less remedies because their curative efficiency needs the presence of certain favourable conditions. This important truth is frequently overlooked and excellent and trustworthy remedies are occasionally discredited and discarded because they fail to cure under other conditions than those which determine their curative effect. This truth applies also to surgical methods and Professor Watson Cheyne[6] has observed: "The results of [surgical] treatment vary enormously in different cases."

The best results are obtained in the early stage and when there is always more or less ascitic fluid in the peritoneal cavity; in this stage there is "not necessarily any matting together of the intestines or shrinking or adhesion of the omentum and mesentery." But in advanced chronic cases you may find adhesions and fibroid induration of the omentum and mesentery—they become matted together, thickened, and shrunken. The intestines may also be bound together by new fibrous tissue, the tubercles also may be found coalesced into large masses undergoing caseation, and the mesenteric glands may be enlarged and caseous. When the disease has reached this stage the conditions are distinctly unfavourable both for surgical and medical treatment.

There is, however, this distinction between medical and surgical treatment—viz., that *medical* treatment cannot be begun too early, whereas *surgical* treatment may be. Professor Watson Cheyne[7] points out that it is an error to operate too soon, for if operation is done too early the disease is apt to return. He recommends that medical treatment should be given a reasonable time, which he estimates as from four to six weeks in the acute cases and from four to six months in the chronic ones. The operation he recommends is a very simple one; in cases with effusion without adhesions the abdomen should be opened in the middle line below the umbilicus and the fluid allowed to run out, aided by turning the patient on his side and "perhaps removing some of it by means of sponges," then stitching up the wound again. He does not recommend washing out the peritoneal cavity unless the effusion is purulent; in that case he advises the use of salt solution for this purpose and then introducing a little iodoform and glycerine emulsion into the cavity before closing it. He also urges that medical measures should be superadded to the surgical ones as soon as possible. Ebstein also supports Professor Watson Cheyne's opinion that "simple opening of the peritoneum" is best "without antiseptics and without washing out or drainage."

As to the cases in which operation should be performed authorities differ somewhat. Some writers draw a sharp distinction between cases of tuberculous peritonitis with ascites and the plastic form in which the peritoneal cavity is obliterated by adhesions, and they maintain that operative interference in the latter is "useless and worse than useless." Professor Watson Cheyne does not hold this view. He says: "All, even the gravest forms, show some good results, and there is *no* form in which we can say that laparotomy is absolutely useless." He states that he has "had success in the dry form as well as in the ascitic." He considers that the most favourable cases are those with *localised* ascites and the next those with *diffused* ascites. Then comes the fibro-adhesive form—when moderate in extent and no ascites. In cases where the abdomen contains large caseating masses successes are not frequent, but he maintains that they do sometimes occur. He does not consider the co-existence of early phthisis a counter-indication, but with advanced phthisis the results are not good. He is doubtful if laparotomy does any good in cases with intestinal ulceration. Then as to the proportion of cures in cases operated on. The same authority tells us that something like 75 per cent. are improved or cured by laparotomy, but he believes that if all cases were operated on, not merely selecting the most favourable ones, 50 per cent. would probably be the outside limit of improvement or cure. If, on the other hand, the more favourable cases only were treated by laparotomy the percentage of successes would be much higher. Second or third operations may succeed where the first fails and fluid re-accumulates. As to the *rationale* of the cure of tuberculous peritonitis by this simple surgical operation Professor Watson Cheyne admits that we are "absolutely in the dark." I think, however, his own suggestion is a reasonable one—viz., that after the removal of the fluid from the peritoneal cavity by incision, serum having anti-bacterial properties may be poured out and so the morbid process be arrested. For me the important fact is this, that apparently a *very slight change* in the environment of a pathogenic

[6] Harveian Lectures on the Treatment of Tuberculous Diseases in their Surgical Aspects, 1900.

[7] Ibid., p. 72.

organism is sufficient to arrest or nullify its activities and to lead to its disappearance.

I wish to put before you a somewhat more definite view as to how iodoform inunctions act in curing tuberculous peritonitis. When iodide of potassium is given by the stomach in a short time the presence of iodide can be detected in the saliva and in the urine. So when iodoform is rubbed into the skin of the abdomen in a young person it probably rapidly enters the blood and is, if regularly applied, continuously eliminated in the secretions, *including the secretions into the serous cavities*, and as these do not pass out of the body as the secretion of the kidneys does, they must, in course of time, become pretty richly charged with iodine compounds, at any rate sufficiently so to act as antitoxin to the tubercle toxin or as anti-bacterial to the bacilli. The first thing to be determined was whether the iodoform in the ointment when rubbed into the abdominal surface, was absorbed into the blood quickly and eliminated by the secreting organs such as the kidneys. Dr. Still has been so good as to make this observation for me at the Children's Hospital in Great Ormond-street. He found first, that iodoform ointment is excreted and easily recognisable in the urine as iodine or the salts of iodine; and, secondly, that the rate of excretion is very rapid. When half a drachm was applied to the abdomen it was recognisable in the urine four hours later, and apparently, after a second application, it reappeared in the urine in two hours' time. When only 15 grains were applied in another case it was recognisable in the urine 15½ hours after application. We have proof here of the rapidity with which iodoform is absorbed by the skin, enters the blood, and circulates as an iodine compound through the tissues of the body and is eliminated into the secretions.

Now, it is an interesting circumstance in this connexion that the idea that iodine is an antitoxin to tubercle has long been in the minds of physicians. I use the word "antitoxin" in a wide and general sense. I quoted in the beginning of this lecture Sir Thomas Watson's gloomy prognosis in cases of tuberculous peritonitis. I will now quote what he adds: "It has been thought that friction upon the abdomen with ointments containing iodine have done good, so that it will be well to make trial of such." Quite recently* two Italian physicians have recorded a case of tuberculous peritonitis in which a cure quickly followed the injection of a solution of iodine made by dissolving 15 grains of iodine and 30 grains of iodide of potassium in one and a half ounces of water. They injected first half a syringeful and then a syringeful in the genital region daily for 10 days and then on alternate days. After about a fortnight some of the fluid was withdrawn from the peritoneal cavity and examined bacteriologically, culture preparations were made, and guinea-pigs were experimented on, but no tubercle was found. After 10 weeks of treatment the patient was discharged cured.

While thinking over these cases I called to mind having read of a Swedish physician, Dr. Emil Nilsson, who reported that he had cured one undoubted case of tuberculous meningitis by rubbing into the shaved scalp an ointment of iodoform (1 in 10), and I found the following amongst my notes. The patient was a boy, eight years old, four of whose brothers and sisters had died from tuberculous meningitis and whose mother's family were phthisical. The symptoms were headache, torpor, convulsions, strabismus, and pyrexia. After other ineffectual treatment, the child becoming steadily worse, the head was shaved and iodoform ointment was rubbed in and an oilskin cap was put on. *This was done three or four times a day.* Improvement soon followed this treatment and consciousness was restored. There were, however, severe coryza, redness of the lips, and an irritable cough, the breath smelling strongly of iodoform. The ointment was discontinued and syrup of the iodide of iron was given. The unpleasant symptoms rapidly disappeared and the child was soon running about in good health.

In THE LANCET of Jan. 16th, 1897, p. 159, there appeared a paper by Professor Thoma of Geneva advocating the treatment of tuberculous peritonitis by creasote given in enemata. He gave at first five minims, increased afterwards to 15 minims, in four ounces of emulsified cod-liver oil, once daily. He continued this for some weeks and then interrupted the treatment for five or six days. He obtained good results. He remarks that "laparotomy is no doubt the best and quickest of all methods for dealing with these cases in which the peritoneum is covered with miliary tubercles, but," he very sensibly adds: "It is always a serious operation and one also which not every practitioner is competent to perform, and moreover parents often object, and physicians would gladly welcome other methods." The method which I followed in the three cases I have related to you of the outward application of iodoform ointment and the internal administration, three times a day, of small doses of iodoform and creasote, is, I think, more promising than surgical operations in those cases in which there is evidence of intestinal ulceration. The disease is thus attacked on both sides—the peritoneal and the intestinal—by anti-bacterial agents.

In conclusion, I would suggest that we should bear in mind that "antitoxins" are not limited to animal products and that we should not neglect the study of those which may be found in the mineral and vegetable world. We must not be led away by fashion and popularity to neglect every kind of remedial agent that is not a "serum" or an animal extract. The oldest and surest antitoxins we possess are mercury and quinine—one from the mineral, the other from the vegetable world. Their effects are better known, are more certain, and are more reliable than those of any other antitoxin at present known to us. That many animal extracts and animal fluids should possess active therapeutic properties, as many vegetable extracts do, was only to be expected. Let us by all means study their effects and learn the extent and the limitations of their uses; but do not let us neglect the study of other curative agents or consider them less important and less interesting because they are not derived from animal sources.

* Brit. Med. Jour., Epitome, Sept. 9th, 1899.

SOME PERSONAL EXPERIENCES OF THE EPIDEMIC OF ENTERIC FEVER AMONG THE TROOPS IN SOUTH AFRICA, IN THE ORANGE RIVER COLONY.[1]

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IT has been my privilege to be actively engaged in one of the most extensive and serious epidemics of enteric fever of modern times. Any value that the following recollections and reflections may possess must be attributed rather to their being the outcome of personal observation on the spot than to any particular qualification on the part of the observer other than may be claimed by a general hospital physician. I must thank the council of the Clinical Society of London most heartily for having done me the honour to ask me to open this discussion.

I wish to speak about myself as little as possible, but I cannot refrain from taking this opportunity of recording the extreme cordiality and courtesy with which I was received wherever I was sent by all ranks of the Royal Army Medical Corps, from the Surgeon-General downwards, and I cannot but believe that the intercourse, social and professional, that was established between the military and civil branches of our profession in the ups and downs of the great campaign may help to lessen the distance which has insensibly grown between them, to the detriment of the service on the one hand and to our loss on the other.

I propose to limit my remarks this evening to a discussion of the outbreak of enteric fever on the Orange River Colony side of the campaign, from the following points of view: (1) the origin of the epidemic; (2) the dissemination of the disease; (3) the general precautions taken to limit the spread of the disease; (4) preventive inoculation; and (5) some remarks on treatment in hospital.

THE ORIGIN OF THE EPIDEMIC.

It is, as may be expected, very difficult to assign a definite date for the first appearance of this insidious disease. But it was in the Modder river camp that we must look for the first cases, and I was given every facility by the colonel and officers of the Guards' Brigade Field Hospital, with whom I

[1] Being the opening paper of a discussion upon the Recent Epidemic of Typhoid Fever among the Troops in South Africa, read before the Clinical Society of London on March 8th, 1901.

was staying in February, 1900, for obtaining information on this point, and though unfortunately I did not compare the facts so obtained with the experience of the other field hospitals, yet I think that we may take the experience of the Guards as being probably typical of that of the whole force. From the admission and discharge book of the Guards' Hospital we find that enteric fever made its first appearance about Dec. 23rd. Four men of the same company, known to be friends, reported sick at about the same time and therefore they may be assumed to have been infected at somewhere about the same date. Up to this time dysentery was the predominant feature of the daily record of admissions, but after this date enteric fever almost replaced it. It must be remembered that the Guards arrived in South Africa in the latter part of November, 1899, and they proceeded after disembarkation straight up to Orange river station, where they halted for two or three days. The battle of Belmont was fought on Nov. 23rd, that of Enslin on the 25th, that of Modder river on the 28th, and that of Magersfontein on Dec. 11th. The Guards were in all these engagements. The long wait of the troops at the Modder began on Dec. 12th.

Now, of course, the date of infection of the first cases of enteric fever above alluded to must be entirely a matter of speculation. But putting the incubation period at the outside at three weeks we are forced to the conclusion that the enteric infection took place in the vicinity of Modder river. That the disease could have been imported from England or even from the Cape seems highly improbable. Modder river cannot be said to be a town or even a village. It consists of the station, a small hotel which was the headquarters of the staff, a store, and a schoolhouse, all near the station. There were several small farmhouses and two or three little hotels, mostly on the banks of the two rivers. The Modder and the Riet rivers join to form one river which retains the name of the Riet, and near this junction the railway crosses the Riet by a fine viaduct which was wrecked by the Boers. The two rivers are picturesque, with well-wooded banks, and serve in times of peace as a pleasure resort for the people of Kimberley.

Kimberley is regularly visited by enteric fever and it is therefore possible that the soil about Modder river station may have become contaminated. Jacobsdal is on the Riet about 10 miles above the camp, and it was known that there were cases of enteric fever there. There is therefore every possibility that men might have been infected by drinking the water of the Riet; but the main source of water-supply was the Modder, and there was no known contamination of it at this time in its course above.

As we shall see later, though it is impossible to acquit the water-supply of having a share in the origin, yet in all probability other agencies played a still more important rôle in the spread of the disease. It is important to bear in mind that this outbreak at Modder river was probably the direct antecedent cause of the great epidemic at Bloemfontein, and that the troops who entered Bloemfontein were deeply tainted with the disease.

The principal medical officer, Colonel Townsend, kindly allowed me to see the daily returns of enteric fever cases from Jan. 29th to Feb. 6th, 1900, and though I think that they understate the true state of the case, yet they give some idea of the rate at which the disease progressed in the early days. Up to Jan. 29th 97 cases had been reported and 17 deaths. On Feb. 6th the total had reached 158 cases and 27 deaths. These figures seem small, but they are fairly evenly distributed over the whole camp, indicating a widespread incidence. The general advance began about Feb. 11th, Kimberley being relieved on the 15th. Jacobsdal was occupied on Feb. 16th, and the next day Paardeberg was surrounded. 10 days were spent around Paardeberg which surrendered on the 27th. Bloemfontein was occupied on March 13th, about a month after the move from Modder river. The possibilities of infection on this long march, especially during the investment of Cronje's laager, must have been very considerable, but the fact of the widespread infection of the forces at Modder river must not be lost sight of, and there can be no doubt that men were falling out sick with the disease every day from the first day of the advance. The Bloemfontein epidemic should be regarded as the direct continuation of that begun at Modder river.

DISSEMINATION OF THE DISEASE.

An army consists largely of individuals of the age most vulnerable to enteric infection. It would be impossible to find a more suitable medium for the growth and dissemination of the bacilli than an army of 40,000 young men of ages between 19 and 25 years. Given therefore a preliminary case or two and from quite small beginnings indefinitely large and serious results may follow. We will now discuss at some length the various agencies by means of which this scourge may be spread over a camp, or by communication by man to man.

Water.—Here, as in England, the water-supply deserves our first attention. The water-supply of the camp at Modder river station included the Modder, the Riet, and certain wells. The river water was charged with thick yellow mud, which was so fine that it seemed never to settle and which rapidly clogged any filter. As will be explained further, the authorities used various means for purifying the water and even caused wells to be sunk, but all these efforts were rendered futile by the action of the soldiers themselves who appeared to prefer the untreated river water. One never passed the drift without seeing the men drinking from the river and filling their bottles. If, therefore, there was any enteric contamination of either of the rivers above, the water-supply must be held to have had a considerable share in the propagation of the disease. The soldiers were also bathing all day in the Modder, but below the point at which the water was drawn for drinking purposes. No doubt many men with the disease on them would be bathing at times and might thus infect their comrades. There was a well at the Station Hotel from which the Headquarter staff was supplied. This water looked clear and sparkling, but the chemical examination of it was less favourable than even of that of the Modder river itself.

At Bloemfontein the question of water-supply was a very pressing one and on my arrival there I was asked to serve on a board to inquire into the water-supply and drainage of the camps. It will be remembered that the waterworks at this time were in the hands of the enemy, so we had to rely entirely upon local sources of supply. These consisted of wells and the spring from which the city takes its name. The spring is situated to the south-west of, and close to, the town. It consists of a brick-lined reservoir of about 10 feet square covered in by a small red brick building, evidently an old engine-house. This all lies in a dip in the ground, and is inclosed by a paling. The veldt on this side of the city drains into two large natural ditches or dongas which receive in their course numbers of smaller ones. These two dongas meet not far from the spring to form one large watercourse which runs through the town. In ordinary circumstances this is dry, but in the rains it and its tributary dongas become rushing torrents, as we had ample opportunity of seeing for ourselves. On the banks of these dongas were several camps; for instance, not 400 yards away was a field hospital in which were 60 enteric fever cases and provided with open trench latrines. Moreover, a donga is a convenient dumping ground for all sorts of refuse. There was no evidence or suspicion that there was any communication between the spring and the donga which were at least 30 yards apart, but the field hospital above alluded to was ordered to be removed. Another action of this board was to cause the provision of bucket latrines to all hospitals and other camps; this was a very important and salutary measure. The water of the spring looked good, but by chemical analysis I found that it contained a suspiciously high percentage of absorbed oxygen and a trace of nitrites. In addition to the spring the city and forces had to rely on wells of which there were several. I have personal knowledge, however, only of those near our own camp, and these were of the tube variety sunk through over 100 feet of underlying rock. These wells gave a good supply of excellent water and from the manner of their construction they were free from any possibility of surface contamination. There were two of them at first and the engineers soon sank another. But these were not sufficient for the needs of the whole camp and so the spring continued to be used as well.

The water-supply from the Modder reservoir was re-opened in May when the epidemic was moderating and therefore can scarcely be looked upon as a factor of influence in itself either way. However, I made several chemical examinations of this water and found it very unsatisfactory, containing a large percentage of absorbed oxygen. Thinking that it might be contaminated in its course through the mains, especially after a long period of stagnation, I procured water direct from the reservoir and found it still far

from satisfactory. It is, however, quite probable that the contamination was of a harmless vegetable nature. All these chemical analyses are open to the objection that they give no hint as to the real nature of the organic material. They should be regarded as danger signals only; a personal examination of the source and course of transmission is of much more value, but unfortunately it is often impossible. It is quite obvious that a harmless water may give a very unsatisfactory analysis, while an apparently pure sample may contain many bacilli. Bacterial examinations can scarcely be expected under the circumstances, even if they were of much value.

The results of atmospheric disturbances.—A visitor to the camp at Modder river would not have to wait long to see a sandstorm, and one would be quite enough to satisfy any curiosity which he might have had. The veldt, generally speaking, is a plain of sand in so fine a state of division as to deserve the name of dust. After the rains there is a certain amount of loose vegetation which binds the sand, and rain and sun also harden the surface which is not, under ordinary circumstances, much affected by the wind; but by the incessant movement of horses, men, and vehicles the surface becomes so ploughed up that one might walk a mile or more ankle deep in soft reddish-yellow dust. From time to time a gale would spring up, and in a short time the whole camp would, on the brightest day, be buried in the darkness of a London fog, and sand and dust would cover everything and everybody. On still days even it was rare not to be visited by a number of small whirlwinds, called "sand-devils," which would pass slowly along sucking up quantities of sand and any light articles such as pieces of paper, carrying them to an astonishing height in the air and depositing them broadcast. The result of all this was that sand entered largely into every article of food, for the cooking was performed in the open air. The air at that time was intensely dry, so that it is not too much to suppose that all sorts of faecal and urinary contamination must have been disseminated with the sand and dust. The same state of things obtained at Bloemfontein but in a minor degree, because the atmospheric conditions were generally quieter at that time of the year.

As a factor, then, in the spread of enteric fever we must by no means overlook sandstorms, which are everyday phenomena in many parts of the world where the British army may be sent, and it is quite a question whether they have not been more important factors in this war than the water itself. For that the water contained enteric fever bacilli is a matter of speculation, but that enteric stools and urine must have been deposited in the latrines and other places by men in the early stages of the disease there can be no reasonable doubt.

Flies.—As may be expected the conditions in these large camps were particularly favourable to the growth and multiplication of flies which soon became a terrible pest. I was told by a resident at Bloemfontein that these insects were by no means a serious plague in ordinary times, but that they came with the army. It would be more correct to say that the normal number of flies was increased owing to the large quantities of refuse, dead horses, &c., upon which they could feed and multiply. They naturally infest persons who are ill but seem to be peculiarly attracted to enteric fever patients, hanging in loathsome groups around their mouths and feeding-vessels. They were all over our food and the roofs of our tents were at times black with them. It is not unreasonable to look upon flies as a very possible agency in spreading the disease not only abroad but at home. Most of the temperature charts that had hung over the patients' beds were plentifully spotted with the excreta of flies and on my return home Dr. Schölberg was so kind as to make cultivations from them; but though he obtained cultures of many organisms he did not isolate the enteric fever bacillus, which circumstance, however, as he says, is not a matter for surprise considering the age of the material (three months at least).

It is a well-known fact that with the first appearance of the frost enteric fever almost rapidly disappears. The winter in South Africa is very mild compared with that which we are accustomed to in England. It is true that the nights are cold, sometimes to many degrees of frost. But the days are warm and bright; for instance, in my tent at midday the temperature was rarely below 70° F. and sometimes as high as 80°—in fact, about the temperature of an English summer day. It seems hardly credible that the almost sudden cessation of an epidemic can be due to the effect of cold upon the enteric fever bacilli only. But there can be no doubt in the mind of anybody who has been living on the open veldt as we have for three or four months that the flies are extremely sensitive to the change of temperature and that the cold nights kill them off rapidly. On consideration of these points it is surely justifiable to assign an important share to flies in the spreading of infection.

Personal infection from man to man.—Even in the best ordered London hospital it is unfortunately not uncommon to see enteric fever pass from patient to nurse and so to other patients. On consideration of the mode of life of the soldier on active service one is struck by the facilities which it offers for infection. Personal cleanliness is often an impossibility even for officers, much less for privates. There is barely enough water for drinking, let alone for washing purposes. The men slept 15 in a tent—when there were tents—and that fact presented considerable possibilities for infection. Far be it from me to say that the soldier is naturally dirty, but there can be no doubt that he has no idea of hygienic matters. This is shown forcibly by our experience at Bloemfontein. We had a large number of officers down with enteric fever, and as the nursing was at that time very heavy we were glad to avail ourselves of the help of the personal servants of these officers. They had not much to do, of course, with the direct nursing of their masters, but nevertheless a large number of them contracted the disease while with us. Of course some of them may have been infected at the same time as their masters. On the other hand, of our own orderlies, eight only took the disease in the whole seven months, though they were in constant attendance on bad cases. This may be due to protective inoculation, but it is also probably owing to their being alive to the ordinary precautions necessary. Bearing in mind the insidious mode of onset of enteric fever it is obvious that at any one time there must have been in these large camps, many men still at duty, with the disease on them, and therefore capable of giving it to their comrades in the close intercourse of camp life.

In conclusion of this part of my subject I cannot help remarking that, far from its being a matter of surprise that the epidemic was so severe, it seems to me, who have lived through it, a matter of congratulation that it was not more so, considering how many unavoidable causes were at work.

The probable effects of diseases antecedent to infection.—Here seems to be the place to discuss shortly certain points of more than academic interest, but for which clinical data are at present, so far as I know, lacking. It is known, experimentally, that the virulence of the bacillus becomes much increased by the presence in the blood of the toxins of other organisms, even of such as are found normally in the alimentary canal—as bacillus coli, for instance.[2] That is to say, an injection of a culture of enteric fever bacilli of slight, non-lethal virulence, may become greatly increased in virulence after the intra-peritoneal injection of streptococcus toxin. I quote from Dr. Horton-Smith's lecture[3]: "Sanarelli showed ..... that all that is necessary is to inject into a guinea-pig at first a dose not quite sufficient to be fatal. The animal recovers, but for some time afterwards attenuated typhoid bacilli may be found in the purulent focus at the seat of inoculation. If now, in this condition a dose of toxins either of bacillus coli or of bacillus proteus vulgaris be injected into the peritoneum the typhoid bacilli at once acquire fresh virulence, the organism is invaded afresh, and the animal dies from acute experimental typhoid fever. More important still, on two occasions he was able to determine such a relapse by injecting small quantities of the toxin into the stomach and so into the intestines, thus exactly reproducing the conditions occurring in the human subject." Here we have an important principle enunciated from the laboratory, but which opens up a field of speculation perhaps not altogether profitless. It is conceivable, nay, more than probable, that every man in these great camps, ourselves among the number, may have at times received into the alimentary canal enteric fever bacilli which may have grown and multiplied but without producing the characteristic disease. If this be so we may assume the existence of an immunity such as a previous attack might establish, or, as it is hoped, inoculation may imitate, or a natural immunity that we wonder at but cannot explain. It may be

[2] Horton-Smith: Goulstonian Lectures, 1900, in which this question is fully discussed, with many references.

[3] Op. cit., p. 35.

that such bacilli never get through into the circulation, but are passed away harmless. It is almost allowable to go a step further in speculation and to admit the possibility of the bacilli actually circulating in the blood without causing the disease. This is not so chimerical an idea as may appear at first sight, for it is now well known that persons who have had the disease may retain bacilli in their tissues for indefinite periods, years even, without harm to themselves.

But suppose, in the light of laboratory experience, some other toxin to come on the scene, then the bacilli acquire a new virulence and the disease may assert itself. Such a starting-point might be supplied by a simple attack of gastro-enteritis with the multiplication of bacilli normally existing in the intestines in small numbers. I need scarcely enlarge upon the possibilities of such a trouble among soldiers with bad teeth and improper food. The enteric fever epidemic has so overshadowed, in the public mind, all other medical ailments that we are apt to overlook the fact that dysentery or its milder forms included under the head of diarrhœa was quite as prevalent among the troops as enteric fever was. It would be quite difficult to find a man who had not had diarrhœa for some time, longer or shorter, during his stay in South Africa. We were struck by the fact that in many of our cases the onset of the enteric fever appeared in the course of dysentery. I strongly suspect that the two diseases may exist in the same patient and that such a conjunction is of very unfavourable omen. A widely distributed, almost universal, dysenteric diarrhœa, a daily exposure to infection by enteric bacilli, here are the elements necessary for a severe epidemic of enteric fever. Mark the importance of such a generalisation if true. Diarrhœa and dysentery in themselves proved as a rule fairly amenable to comparatively simple treatment, but in the light of the foregoing remarks the slightest diarrhœa becomes invested with a new importance and officers and men should be warned to apply for immediate treatment at a time when the simplest measures may have the greatest effect. This warning is sufficiently warranted by consideration of dysentery on its own merits, but it becomes doubly so if we look upon it as a co-worker for evil with enteric fever.

PRECAUTIONS TAKEN BY THE AUTHORITIES TO PREVENT THE SPREAD OF INFECTION.

At Modder river some of the regiments—the Guards for instance—made efforts in the direction of purifying the water. One tried boiling and clarifying with a small quantity of alum. Another used filters (Berkefeld), having as many as seven large ones going all day, but the water was so thick that the cylinders became clogged every 10 minutes by a thick coat of slime. The Guards' Hospital made use of Pasteur filters. After filtration the water was most palatable, but the objection to the boiling process is that in a tropical climate the water takes so long to cool and when cooled forms a very flat beverage. At any rate, the men preferred the river water in its natural state, and unless sentries were posted along the banks of the two rivers it is difficult to see how they could be prevented from drinking from them even if it were positively known that the water was polluted. Five or six wells were sunk along the bank of the Modder river, but they did not seem to come into general use. The latrines were of the open trench variety, carefully inspected daily, and with sentries over them to see that they were used properly. They were continually being filled in and fresh ones dug. The water-supply at Bloemfontein has already been discussed and the important measure of substituting the bucket for the open trench latrines has been mentioned. In our hospital and No. 3 General Hospital at the base, it was the custom to disinfect enteric fever and dysenteric stools with mercuric perchloride solution (1 in 250), to remove them to a shed set apart for the purpose, and there to mix them with sawdust for burning. At Bloemfontein the stools were buried after disinfection. On the whole it is difficult to see what more could have been done. It is easy to make suggestions, but after all the carrying of them out will ever be subservient to the exigencies of warfare.

PREVENTIVE INOCULATION.

The conditions of life of an army on active service, even in camp, may well fill the soul of the sanitarian with despair. It is therefore with hope that we turn to the question of the possible artificial immunity by inoculation which has naturally evoked so much interest in this war. The figures that I have to give on this question are small, but they possess the value of personal observation. The Portland Hospital went out with the usual *personnel* of a Base hospital for 100 patients as shown in the table.

TABLE I.—*Portland Hospital.*

—	Inoculated.	Not inoculated.	Enteric fever.	Died.
Medical staff (five)	4	1	0	0
Sisters (four)	0	4	1	0
Non-commissioned officers, orderlies, and servants (32) ...	24	8	9	1
Total strength (41)	28	13	10	1

Of the non-commissioned officers, orderlies, and servants 24 were inoculated by us on the voyage out, and four of the medical staff at the same time. All of these showed the local symptoms at the time—that is, pain, stiffness, and local erythema; 17 also presented well-marked constitutional symptoms, general feeling of illness, fever, and headache. Nine of the orderlies contracted enteric fever. It is significant that two of these had the disease very severely, and one of them died; both of these had refused inoculation. Of the inoculated cases five had the disease lightly and two rather severely. One of the sisters also had the disease rather badly and she had not been inoculated.

Figures relating to patients admitted to the Portland Hospital.—Including the members of our own *personnel* above mentioned we had under treatment at the Portland Hospital 232 cases of enteric fever, most of which came under our care while the hospital was at Bloemfontein. These were cases under our personal care and do not include among them convalescents who were entered in the admission and discharge book as patients, but who really only occupied beds for a short time until a train could take them to the base. If these latter were reckoned the percentages would of course be lower. The following table shows the numbers and mortality among inoculated and non-inoculated (the sister is entered as an officer).

TABLE II.—*Portland Hospital.*

Enteric fever.	Recovered.		Died.	
	Inoculated.	Not inoculated.	Inoculated.	Not inoculated.
Officers (34)	21	12	0	1 = 7·6%
Non-commissioned officers and men (198)	29	141	4 = 12·1%	24 = 14·6%
Total (232) ...	50	153	4 = 7·4%	25 = 14·0%

Of the total number 54 had been inoculated at home or on the voyage out. Of these four died, making a percentage of deaths among the inoculated of only 7·4 per cent. 178 had not been inoculated, and of these 25 died, a mortality of those not inoculated of 14 per cent. The general mortality from enteric fever with us was 29 deaths out of 232 cases, that is 12·5 per cent.

If we take the experience among the officers alone, the evidence in favour of inoculation is still more striking. The officers as a body have presented themselves for inoculation in much larger numbers relatively than the men. This idea is expressed in our figures, but of course they must be taken as suggestions only. Of 198 non-commissioned officers and men 33 only had been inoculated—that is, 16·2 per cent.; but of 34 officers (including the sister) 21 had been inoculated, or 61·7 per cent.; only one died, and he had not been inoculated. It is scarcely surprising, in view of these figures, that my colleagues and I feel favourably disposed towards inoculation. I saw myself many bad cases among officers and men, not in our own hospital, and I am aware that several have died who had been inoculated, but this does not alter the strong general impression, gained by clinical observation, that the disease takes a milder and more benignant course in the inoculated than it does in the non-inoculated.

General remarks on inoculation.—A few remarks on the general question of inoculation may not be out of place here. The material used is a sterilised pure culture of enteric fever bacilli in broth. The broth contains, therefore, dead bacilli and a toxin, which toxin, however, seems to be inseparable from the bodies of the dead bacilli, for a filtered broth possessed little toxic power. The supply we took out was given to us by Professor Wright and was prepared in his laboratory at Netley Hospital. The dose is regulated by the quantity necessary to kill a guinea-pig of a certain body-weight. This is generally about 10 centigrammes or from 15 to 18 minims. It is therefore a virulent poison. Injected in the body more or less severe local and constitutional symptoms ensue. The local symptoms consist of pain at the seat of puncture (most often the loin), erythema, and lymphangitis spreading from the wound. The constitutional symptoms may include rigors, fever, headache, a feeling of more or less severe illness, and often a tendency to faint, all lasting for from 12 to 24 hours. These symptoms vary very much in different individuals. In some there is merely a transient indisposition and a pain in the side; in others there may be high fever, a temperature of 103° F. or more, and all the appearance and sensation of serious illness. After inoculation, for an indefinite period, the blood may give the Widal serum reaction; in my own case it was present three months after, well marked, and was made out faintly 13 months after. The inoculated person is now supposed to be in a state comparable to that of one who has lately had enteric fever; that is, he has had artificially thrown into his circulation the same toxin which is produced in enteric fever and which possibly influences the activity and growth of the bacilli. He is also assumed to possess, as a result, a certain degree of immunity such as is believed to be acquired by the individual after an attack of the disease. The liability to infection by enteric fever is so variable that we are justified in supposing the existence of an equally varying degree of natural immunity in different persons. Moreover, the toxic saturation point, so to speak, is also a variable one, as is exemplified by the tendency to re-infection or relapse so often seen clinically. I am inclined to think that when the reaction to inoculation is slight it is probably because the person possesses a certain degree of natural immunity, while, on the other hand, a severe reaction indicates proportionate vulnerability to infection. In the former case if the inoculated person take the disease he has it lightly, but in the latter severely. If this be true the toxin reaction possesses a real value as a means of forecast. But again, if this reaction is any measure of the degree of immunity possessed by the individual, it is obvious that after a pronounced reaction one or more re-inoculations should be insisted upon. For all that is claimed for the process is a temporary immunity, and that often partial only. An attack of enteric fever itself does not do much more, for second attacks are far from uncommon.

Inoculation has not yet had a fair trial. Medical officers have been too uncertain as to its value to insist upon one injection even, let alone re-inoculations. It is to be hoped that the figures of the whole army, yet to be published, will indicate with some certainty its value in the direction of lowering the mortality, as those quoted in this paper appear to do; this will justify the medical profession in taking a more decided attitude on the question than it has at present been able to take.

REMARKS ON TREATMENT.

It may seem almost an impertinence on my part in this presence to make suggestions on treatment, but my doing so may serve as a protest against the attitude in the present day of some of the profession as well as the public in assuming that the care of enteric fever devolves upon the nurse rather than the physician. I have no hesitation in saying that in a disease in which danger threatens from so many points watchful supervision by the physician and prompt treatment of symptoms are not only productive of comfort to the patient, but are also contributory in a high degree to a successful issue. I am of opinion that there may be many worse places in which to undertake the treatment of enteric fever than a comfortable tent in the open air; in fact, there can be no doubt that a tent is superior to a great many buildings, and this should be borne in mind in view of newspaper criticisms on the failure by the medical authorities to secure all the available buildings in Bloemfontein.

Diet.—One of our earliest difficulties at Bloemfontein was the scarcity of fresh milk. It becomes necessary in such circumstances to fall back upon preserved or condensed milk. There are one or two forms of sterilised milk which are as good and palatable as the fresh article, but they are expensive. The condensed milks of numerous brands are excellent for ordinary use, but it is doubtful whether they possess much nourishing power in illness. The common sweetened form is most unsuitable; patients had as a rule an intense objection to it and it caused undoubtedly in some cases troublesome vomiting. The other forms of nourishment—e.g., arrow-root, beef-tea, &c.—we had in plenty. Our principle in dieting was to use all forms of nourishment liberally when, in our opinion, it could be safely done. Most of our patients were thin and ill-nourished before contracting the disease.

For myself I have for many years held the opinion that food may be used much more boldly in enteric fever than is the usual practice. The safety of its employment depends solely on the digestive power of the stomach. If that power is normal, as in many cases it is, meat, for instance, is not likely to reach the ulcerated small intestine in a form more dangerous than a glass of milk is. For milk naturally becomes a mass of curds in the stomach before peptic digestion takes place, and if this latter process is incomplete the undigested curds may be a real source of danger. It seems to me that one should be guided in this matter by the state of the tongue, the evacuations, and the appetite of the patient. If the tongue is moist and fairly clean, if there is no diarrhœa—that is, if the evacuations are no more in number than, say, two a day and fairly consistent—and if there be no tympanites, and the patient has a strong craving for food, it is probable that his digestion will be good and that a liberal diet, including, for instance, finely minced meat, and even thin bread-and-butter, will not only be safe but beneficial. On the other hand, the dry brown tongue, frequent curdy stools, and especially if there be tympanites and a disinclination for food, indicate a condition of stomach that makes careful dieting imperative. Frequent small feeds of milk, peptonised or diluted with barley-water, Benger's food, &c., must be used with care and the stools frequently inspected as a guide to the state in which the food reaches the intestines.

But the mechanical effects of undigested food in the small intestines are not the only ones to be feared. Experiment seems to show that the growth of the enteric fever bacilli is favoured and their virulence enhanced by the presence in the intestines of other bacteria, such as are encouraged by the presence of undigested food, and themselves tending to produce gastro-enteric trouble. So that a slight gastro-enteritis may have a grave effect on the course of the attack. This has been justly emphasised by Dr. Horton-Smith in his Goulstonian Lectures (1900).

Alcohol we used most sparingly and only in the severer cases in which we feared heart failure, not at all in the milder cases. The small rapid pulse we considered the best indication for its use, not high temperature. We rarely gave more than three or four ounces and never more than six ounces in the 24 hours. The long-enforced abstinence of the soldier from all forms of stimulant renders him rather susceptible to its influence as a drug.

Digitalis and strychnine were of the greatest value. In one or two cases gradually increasing doses of the officinal liquor strychninæ were injected hypodermically to the extent of 30 minims in the 24 hours.

Headache.—This was one of the first symptoms that called for treatment, and from five to 10 grains of phenacetin generally gave speedy relief, or, failing this, a somewhat larger dose of antipyrin. In not a few cases this caused during the sleep that followed a profuse perspiration with perhaps a slight fall in the temperature. Beyond the discomfort of this no ill result followed. In some cases, however, this sweating was so annoying that it became necessary to add from one-hundredth to one-fiftieth of a grain of atropin, which usually stopped it.

Insomnia.—One of the most troublesome symptoms was insomnia and the cry for hypnotics was a very common one. As a rule, all that was necessary was a small dose of phenacetin, which proved as useful for this purpose as it did for headache. To patients who were delirious and constantly attempting to get out of bed we did not hesitate to give hypodermic injections of morphine and in considerable doses, such as a quarter of a grain, repeated several times if necessary.

Mouth and tongue.—The care of the mouth and tongue

may appear a minor detail. It is not so in the estimation of the patient, and in the severer cases the dry, black, and cracked tongue and lips are more than a discomfort—the pain of taking food may positively prejudice the nutrition of the patient. Local treatment may be all that is necessary—mechanical cleansing or the use of mouth-washes, and of these we found one containing potassium chlorate, glycerine, and iron perchloride the most useful. A mixture containing potassium chlorate and sodium bicarbonate given three times a day had a remarkable effect in cleaning and moistening the mouth and tongue, so much so that its use became almost a matter of routine.

Intestinal symptoms.—Diarrhœa is, I believe, less a symptom than a complication and as such requires treatment. In the minds of some it is regarded as an effort of nature to remove deleterious matter. I cannot accept this view, for in all epidemics a considerable, if not a large, percentage of cases have no diarrhœa, and these are, as a rule, favourable cases, whilst among the worst cases diarrhœa is most common. This is shown by the fact that in our 29 fatal cases 21 of the patients had more or less severe diarrhœa. Diarrhœa may be due to general enteritis consequent on extension of inflammation from the ulcerated patches to the general mucous surface of the intestine, but it is probably more often caused by an ulceration of the large intestine. There is no doubt that such ulceration is often found post mortem in the colon, very commonly in the region of the cæcum, and in two or three of our necropsies there was found extensive discrete ulceration of the large intestine even to the rectum. The treatment of this diarrhœa was comparatively simple and undoubtedly of great benefit to the patient. Bismuth carbonate or salicylate and chlorodyne proved the most useful drugs, supplemented if necessary by suppositories of one quarter of a grain of morphine. In obstinate cases enemas of 10 per cent. boric acid solution often gave permanent relief, a further hint that the cause of this symptom was in the large intestine. Tympanites, always a dangerous condition, rarely gave us any trouble; it is best treated by boric injection. A small injection of about four ounces of water containing two grains of quinine and half an ounce of brandy would often cause the patient to pass flatus with great relief. Hæmorrhage occurred in 10 cases, on the average at about the eighteenth day. In some it was very severe and was repeated two or three times and was so profuse as to cause blanching. It was almost invariably accompanied by a sudden fall of temperature and invariably by a rise in the pulse-rate. In only one was it found after death, not having been suspected during life, with which exception it never proved fatal, and though four of these patients died ultimately no blood was found in the alimentary tract. Hæmorrhage always yielded to, or after, treatment, which consisted of a mixture containing oil of turpentine and tincture of hamamelis of each half a drachm, and tincture of digitalis three minims. This was given every two hours, or alternately every hour with a drachm of hazeline. One of us used hazeline alone—a drachm every hour—with apparently equally good results. At the same time morphine suppositories were administered. Under this treatment the stools rapidly ceased to contain bright blood, and in about 12 hours were free from blood altogether. Perforation occurred in five of our patients, averaging at about the thirty-fifth day. The earliest day of occurrence was the nineteenth and the latest the fifty-first day of the disease. The prognosis of this terrible accident is gloomy in the extreme, whether viewed from a medical or a surgical standpoint. There is reason to believe that in a very small percentage of cases the resulting peritonitis may become localised, but this happy event cannot be foreseen because it seems that the symptoms are rarely, if ever, proportional to the extent of the peritoneal inflammation. The symptoms of peritonitis in the course of enteric fever are not those of the same accident in a comparatively healthy person. The local pain, for instance, is rarely so severe and may be almost absent, so also is the characteristic position of body. Abdominal movement may be present and ample. The absence of liver dulness as a sign is frequently wanting. But a rise in the pulse and respiration rates and a sudden fluctuation of temperature are almost invariable and of these the former is the most constant. The diagnosis having been made the physician has two courses of treatment open to him, either equally unsatisfactory. The medical treatment amounts to the securing of absolute rest to the intestines in the hope of plastic localisation of the inflammatory process, and this, of course, is best obtained by the free use of opium. If the issue must be fatal this treatment is humane, if nothing else. The surgical treatment is as unsatisfactory as the medical, but nevertheless it is a question whether it is not the duty of the physician to recommend it. It offers a slender chance of recovery and it is possible that as time goes on this chance may be improved. The history of abdominal surgery warrants this hope. If surgeons had allowed the high mortality in the early days of abdominal operations to deter them from operating repeatedly that method of treatment would never have attained the position it now holds. It is difficult, however, to imagine a more unfavourable case for operation than a person suffering from enteric fever, at any date of the disease. The operation itself offers no peculiar difficulties, but in the two that were attempted by us we were glad to get the patient off the table alive. In neither case was the operation performed until from 10 to 12 hours after the first symptom, and it is, of course, possible that if it had been resorted to earlier the result might have been more favourable. The best one can say is that the patients both expressed themselves as feeling more comfortable and quite free from pain, but nevertheless they died four or five hours afterwards.

Harley-street, W.

THE CLINICAL AND PATHOLOGICAL RELATIONS OF THE CHRONIC RHEUMATIC AND RHEUMATOID AFFECTIONS TO ACUTE INFECTIVE RHEUMATISM.[1]

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A GLANCE through the table of contents of any modern text-book of medicine suffices to bring home to one the fact that in the matter of the classification of diseases we are living in a period of transition, a period of compromise. The primitive but natural plan of grouping morbid conditions according to the organs or structures specially implicated is still largely adhered to. On the other hand, we find evidences of the dawn of a more scientific system of classification, and we may reasonably expect that before very many years shall have passed away our knowledge will have so far advanced that it will be possible for works to be written in which the various manifestations of each separate morbid process will be so brought together as to form parts of a continuous and comprehensive description. Although this is even now possible to a limited extent it is clear that extensive gaps in our knowledge will have to be filled up before large portions of the field of medicine can be so treated and for the present the time-honoured plan must in many instances be adhered to.

By no department of medicine is this process of transition from one system of classification to another better illustrated than by that which we are this evening met together to discuss. Out of a primitive category of "arthritis" various distinct forms of articular disease have been successively differentiated. The first such sub-division occurred as long ago as the seventeenth century, when Baillou first called attention to the special features of acute rheumatism and drew a distinction between that disease and gout. The next advance did not come until the meeting of the eighteenth and nineteenth centuries, when the further differentiation was made of the conditions now known as rheumatoid or osteo-arthritis from rheumatism by Haygarth and Heberden in our own country and from gout by Landré Beauvais in France. Since then the advance has been more rapid and not a few special forms of articular lesions have been distinguished, such as gonorrhœal arthritis, the arthritides of certain specific fevers, the arthropathies met with in tabes dorsalis and other nervous affections, and the peculiar joint affection to which

[1] The opening paper in the annual clinical debate at the Chelsea Clinical Society on March 12th, 1901.

sufferers from hæmophilia are so liable. We have learnt, moreover, that not a few of these forms of arthritis are results of morbid processes in which the joints do not alone suffer and which have nothing in common beyond the fact that the joints may be implicated in their course.

The progress of our knowledge of the so-called gonorrhœal rheumatism is peculiarly instructive. We find it at first regarded as acute rheumatism accidentally associated with gonorrhœa or awakened into activity by the gonorrhœal infection. Next we meet with the suggestion that it is pyæmic in its nature or is an arthritis of reflex nervous origin set up as the result of urethral irritation. Lastly came an accumulation of evidence, ultimately amounting to complete proof, that this is a specific malady due to the dissemination of the gonococcus through the tissues, as evidenced by the detection of this micro-organism in the inflamed joints as well as in other structures which are liable to be implicated.

An inevitable result of the growth of knowledge along such lines and of the successive recognition of the individual diseases which had previously been grouped together in one common category has been the persistence and survival of notions regarding them which act as a drag upon further advance, and which even at the present day exert a profound influence upon the views which prevail both as to the nature and treatment of the maladies which have this in common—that they implicate the joints. The lay public is still dominated by the older ideas and looks with suspicion upon plans of treatment, both dietetic and medicinal, which do not conform more or less closely to those which have been advocated by successive generations of medical men as desirable for sufferers from true gout, and even in our own profession the notion is still widespread that in spite of fine-drawn distinctions gout, rheumatism, and rheumatoid arthritis are, after all, much of a muchness. We tend too much to assume that a joint affection is gouty or rheumatic in its origin unless it is clearly shown to be of a different nature. Surely the time has arrived when we may strive to shake off this obsession and to assign some definite significance to the terms "rheumatism" and "rheumatic."

Let us seek by careful observation and study to place the classification of diseases which implicate the joints upon a more scientific footing apart from preconceived notions as to their causal relationship to each other. In the course of such investigations any relationships which actually may exist will pretty certainly become revealed, whereas we shall speedily lose sight of such as are merely imaginary.

The terms "rheumatism" and "rheumatic" are perhaps more loosely used and more freely abused than any others in the vocabulary of medicine, but three main ideas appear to underly their various applications—namely, the ideas of pain, of causation by exposure or chill, and of implication of joints. In some so-called rheumatic conditions pain is the only symptom and the use of the word in this connexion is well expressed by the parody of a grammatical rule which I quote from Senator:—

> "Schmerzen, die man nicht definiren kann,
> Sieht man als Rheumatismus an."

The idea of chill and exposure underlies the use of such terms as "rheumatic facial palsy" and "rheumatic iritis" whilst gonorrhœal rheumatism may be again referred to as exemplifying the application of the name rheumatism to a joint affection presenting a certain resemblance to rheumatic fever. In rheumatic fever itself, which may be looked upon as the type of rheumatic affections, we find all the above ideas combined.

It would be a matter of extreme difficulty, well-nigh an impossibility indeed, to abandon the loose employment of these terms in ordinary practice. They have a firm hold upon the laity and the diagnosis is as often as not of the patient's own making. The medical man who attempted to dispense with them altogether would run the risk of being set down as a pedant by his professional brethren and by his patients as an ignoramus who does not know so simple a disease as rheumatism when he meets with it. It is equally out of the question to abandon the use of the term "rheumatism" as a scientific name for the general specific disease which manifests itself most characteristically in an attack of rheumatic fever, but which may assume a variety of forms aberrant from this. On the other hand, it would not seem to be too much to ask that, in medical literature at any rate, the use of the word should be limited to acute rheumatism and to conditions which are believed upon good evidence to be products of the same morbid process or sequelæ of its activity. Even this will be no easy matter. For example, what alternative name shall be assigned to gonorrhœal rheumatism, which certainly does not come within the above definition? The terms "gonorrhœal arthritis" and "synovitis" are far from satisfactorily replacing it, for they express only part of the truth and take no account of the abarticular lesions, such as iritis, pleurisy, myositis, and even gonococcal endocarditis, which may accompany the articular lesions, and, like these, are due to the dissemination of the gonococcus.

Hitherto the recognition of the various truly rheumatic lesions has been arrived at by clinical methods and is based upon their association or sequence. It is upon such grounds that we have become convinced of the frequent rheumatic origin of such affections as tonsillitis, erythema polymorphe, and chorea, but there are indications that before long a surer criterion may be available. There are nowadays comparatively few physicians in this country, and still fewer on the continent, who refuse to recognise the force of the arguments in favour of the view that acute rheumatism is an infective disease, and this quite apart from more recent bacteriological researches which seem to bring us much nearer to the ultimate solution of the pathology of this disease. I need not dwell further upon this point or discuss the question whether acute rheumatism is due to a specific micro-organism or may result from invasion by various pyogenic bacteria. There are some present here who are far more competent to speak on these points, and indeed the council of this society has assumed the infective nature of the disease in the definition of the subject which we are met together to discuss. There are probably few if any here present who will not be prepared to admit that rheumatism is much more than a disease of the joints in the course of which cardiac complications may or may not develop, but is rather a systemic malady in which heart and joints are alike apt to suffer and which may also implicate the skin, subcutaneous tissues, nervous system, and other structures of the body. Nor do I anticipate any opposition to the further proposition that no morbid condition is rightly termed rheumatic which cannot claim, with a good show of reason, to be a manifestation of this disease or a direct sequel of the mischief which it works in the tissues. Let us then proceed to the consideration of the question whether there are any morbid conditions to which the name of "chronic rheumatism" may be correctly applied.

That the rheumatic process may smoulder on for months and even years is beyond question. In children especially we not unfrequently see a veritable rheumatic cachexia, a succession of more acute outbursts being separated by periods of incomplete recovery, during which there may be evidences of still active endocardial or pericardial lesions, or successive crops of subcutaneous nodules may develop, fresh nodules making their appearance whilst those of longer standing are absorbed. In adults an attack of rheumatic fever may be preceded or followed by frequently repeated minor rheumatic manifestations. We know too that an acute attack may leave one or more joints more or less seriously damaged, and perhaps the seats of chronic synovitis. This is, however, the exception and not the rule. Some permanent deformity, such as ulnar deflexion of the fingers, may also follow from repeated attacks of rheumatic fever, and the frequently irreparable damage to the cardiac valves which it leaves behind it is a matter in the daily experience of all. On the other hand, cases are occasionally met with in which extensive crippling and deformity apparently result from an acute rheumatic attack. Cases of this kind occurring in children have been described by Sir Thomas Barlow, Dr. William Pasteur, and others, in which the crippling articular disease has been attended by other troubles which could, without hesitation, be looked upon as truly rheumatic. A similar condition in adults has been described by Jaccoud and other French and Italian authors under the name of "rhumatisme chronique fibreux" in which deformities are present similar to those associated with the name of rheumatoid arthritis. It is difficult to be sure how far the cases so described differ from those which we in this country are accustomed to look upon as examples of rheumatoid arthritis developing as a direct sequel of rheumatic fever.

This brings us by a natural transition to the consideration of the cases usually classed together under the name of "rheumatoid arthritis," the relationship of which to those of acute rheumatism will probably be the main subject here discussed. It would, however, be useless to enter upon such

a discussion without a preliminary consideration of what is meant by the term rheumatoid or osteo-arthritis. I confess to a very strong belief that under this name we are in the habit of confusing together several distinct forms of articular disease the study and discrimination of which offers a very promising field for research. Such discrimination must have its basis in morbid anatomy, aided by other means of pathological inquiry and aided, too, very materially by clinical observation. Indeed, I believe that it is mainly on account of the difficulty of making any adequate study of the pathology of these diseases that our knowledge concerning them still leaves so much to be desired. Let me endeavour to sketch briefly the clinical grounds for my belief that we are here dealing with no single defined malady.

In a female patient, about 30 years of age, or even younger, we witness the onset of a disease affecting many joints and which is specially apt to commence in those of the hands and feet. Of the finger-joints the first row of interphalangeal articulations are specially apt to suffer, they become the seats of fusiform swellings, which are apparently in part due to thickening of the joint capsules and in part to effusion into the synovial sacs. The wrist is apt to be affected early and its contour is lost; bursal swellings add to the deformity of the parts. No osteophytes can be felt, nor is it possible to make sure by radiography or other means that there is any actual enlargement of the ends of the bones. The affection of the joints has a strong tendency to symmetrical arrangement. The disease may progress rapidly, so as to involve almost every joint in the body, and the temporo-maxillary joints and those of the vertebral column are frequently attacked. Muscular atrophy is a pronounced feature, and muscular contracture may lead in time to conspicuous deformities. In some cases the general health is not very materially impaired, but in others the patients are decidedly ill. There may be marked and progressive anæmia and a considerable degree of pyrexia, either of the hectic type or taking the form of bouts of conspicuous febrile disturbance separated by afebrile intervals. The amount of pain experienced is also very variable and has no obvious relation to the severity of the articular affection. In some cases it is the most distressing symptom throughout. In others it is comparatively insignificant.

Turn now to the case of an older woman, say 60 years of age or thereabouts. She also has developed a multiple joint affection somewhat similar in its distribution but slower in its progress and differing markedly in its clinical features. In the hands the terminal inter-phalangeal joints are specially affected, but those of the first row may also be involved, and with peculiar frequency the carpo-metacarpal joints of the thumbs. The affected articulations are obviously enlarged, but the soft structures are but little thickened and the enlargement is clearly due to an increase in size of the ends of the bones. The swellings have not a fusiform shape, but commence somewhat abruptly near the joints. In the knees similar changes with lipping of the bones is met with and some crackling or creaking is clearly felt on movement. The general health is not seriously impaired and it may be confidently predicted that the progress of the malady will be only very gradual. This is not merely a further stage of the condition previously described, for it may be watched commencing with its characteristic features *ab initio*, nor are the differences simply due to the age of the sufferer, seeing that cases of the former type may be met with at an advanced age and those of the latter kind at an unusually early period of life. For convenience of reference these may be referred to as the "fusiform" and "nodular" forms respectively.

Take yet a third case in a younger patient. Here we find but little enlargement of the affected joints, but the deformities due to muscular contracture become rapidly developed and grotesque deformities of the hands result with almost complete fixation. Cases of this third or crippling form *par excellence* are happily much less common. They may be recognised even in their early stages and the outlook in such cases is specially gloomy. One of their characteristic features is the formation of small osteophytes about the affected joints which may be felt as sharp projections beneath the skin.

In addition to such polyarthritic forms there is yet a fourth group of cases in which only one or two joints are involved, as, for example, in the hip-joint affection of elderly people.

The question naturally arises how far the members of these several groups differ in their morbid anatomy and to this question it is difficult to return a definite answer at present. The classical description of the changes in the joints characteristic of rheumatoid arthritis is to be found in every work treating of the subject, and every medical student is taught how the cartilages become fibrillated and eroded and ultimately entirely worn away; how the articular ends of the bones become condensed, ivory-like, and grooved by friction; and how osteophytic outgrowths are formed around the articular surfaces. Of the accuracy of the description there can be no question, but it is mainly based upon the examination of cases of the senile class, and it is permissible to doubt whether it applies equally to all the varieties the features of which I have endeavoured to sketch.

It is probable that some of those who are present this evening may have had opportunities of examining post mortem cases of what I have spoken of as the fusiform group and can supply information bearing upon this question. Observations made upon the younger patients and in the comparatively early stages of the malady would be of special interest. The opportunities for such examinations are peculiarly limited, although the disease is only too common, and it is possible to have carried out a large number of necropsies, in a London hospital at any rate, without having ever had such an opportunity. It is, indeed, remarkable how seldom such patients succumb in our hospitals to acute intercurrent diseases.

The condition described as rheumatoid arthritis in children resembles in many respects the fusiform rheumatoid arthritis of adults. In their clinical aspects the joint lesions are very similar, and in such cases a fatal ending at a comparatively early stage is not very uncommon. In them the changes found in the joints post mortem certainly do not conform in the least to the classical description. The articular cartilages may be intact or may show some pitting at their edges, apparently due to pressure exerted by swollen synovial processes. The chief lesion observed is thickening and undue vascularity of the synovial membrane. There appears to be no tendency to osteophyte formation. I am here quoting from Dr. G. F. Still's description, to the accuracy of which I can myself bear witness, as I have seen the specimens upon which it is based. I strongly suspect that a very similar condition of the articular structures exists in the earlier and more acute stages of the fusiform rheumatoid arthritis of adults.

In a case of the extremely crippling kind in which Dr. Still and I had the opportunity of making a post-mortem examination, the disease, which had been in progress from the age of 17 to that of 37 years, had caused fixation of every limb, so that the patient had been unable to move hand or foot. The case had been diagnosed as rheumatoid arthritis by several highly competent observers, but the conditions found were distinctly at variance with the teaching that one of the special features of the malady is the absence of bony ankylosis, at any rate in the joints of the limbs. In every joint examined some such ankylosis had occurred—not a complete fusion of the articular surfaces, but the formation of bridges of cancellous bone which could be broken down by a slight exercise of force. In the knee-joint the cartilages were destroyed and the bony bridge occupied the position of the cruciform ligaments. Around the articular surfaces were numerous small osteophytes.

In some cases of the nodular kind the changes met with in the finger-joints and elsewhere have conformed more closely to the classical description. It has been suggested that the changes ordinarily described as characteristic of rheumatoid arthritis are not the products of a single definite morbid process, but are merely lesions which are apt to occur in joints which have become the seats of chronic disease of various kinds. There is much to be said for this view. We shall have the opportunity later of hearing the views on this subject of Mr. Arbuthnot Lane who has called attention to the part played by mechanical wear and tear in the production of lesions of this character. Again, as Mr. A. A. Bowlby has pointed out, similar changes in the bones and cartilages are met with in the joints of bleeders who have suffered from the special form of arthritis to which they are liable and which is believed to have its origin in hæmorrhages into the articular cavities. If this idea be well founded we might expect to find the classical changes in the joint structures in any case of rheumatoid arthritis of sufficiently long standing, and their presence will afford no evidence as to the identity of the morbid processes at work in the different cases.

I take it that the main question which we are invited to

discuss this evening is—Whether or no rheumatoid arthritis, or, as I should prefer to say, any of the diseases included under that name, stands in any direct relationship to acute rheumatism. The existence of such a relationship has been warmly maintained by some and equally warmly contested by others. Doubtless we have representatives of both camps among us this evening and we may rely upon full justice being done to the arguments in favour of either view. If such a direct relationship exists we should expect the onset of rheumatoid arthritis to be frequently preceded by an acute or subacute rheumatic attack. It is true that a history of antecedent rheumatic fever, recent or remote, is not very unfrequently forthcoming in such cases, as must inevitably be the case with two maladies both of which are so common. Moreover, the onset of rheumatoid arthritis in its more acute forms may be attended by a considerable amount of febrile disturbance, and at this stage it may be mistaken for rheumatic fever, especially as the initial febrile stage may be followed by a temporary improvement. I believe that this accounts for some of the cases in which a history of recent acute rheumatism is obtained. Lastly, as has been already mentioned, an undoubted attack of rheumatic fever is followed by a chronic joint affection clinically indistinguishable from the fusiform variety of rheumatoid arthritis. A similar result may follow an attack of gonorrhœal rheumatism or even gout, and the question arises whether such secondary rheumatoid arthritis is merely a continuation of the former malady or affords an example of a second disease developing in a subject weakened by the antecedent attack, just as tuberculosis may appear as a sequel of measles. Such cases constitute a very small proportion of the total number. In the great majority of instances rheumatoid arthritis of any form appears as a primary malady and presents its characteristic features from the onset and more often than not the patient has not previously suffered from any troubles which are suggestive of a truly rheumatic origin.

Next as to the development of abarticular rheumatic manifestations in the course of rheumatoid arthritis. In this connexion it should be borne in mind that rheumatoid arthritis in all its forms is most apt to appear at a period of life at which the abarticular manifestations of true rheumatism tend to be less conspicuous. Some of these are almost confined to childhood and puberty and even endocarditis and pericarditis diminish notably in frequency as age advances. Organic cardiac murmurs are undoubtedly present in some cases and some published statistics place their frequency unexpectedly high. Some such murmurs clearly date from attacks of acute rheumatism at some period more or less remote, others may be ascribed to atheromatous changes. Each individual example requires to be considered upon its merits and impressions based upon observation and experience are of at least equal value with statistics. Such experience as I have had leads me to range myself with those who hold that sufferers from rheumatoid arthritis show no greater liability to valvular disease than others not so afflicted, and I imagine that few medical men when watching such a case anticipate as a probable event the development of organic heart disease in its course.

In children with so-called rheumatoid arthritis Dr. Still has almost constantly found pericardial adhesions post mortem, but the active pericarditis in which such adhesions presumably have their origin has passed unnoticed. In the crippling case to which reference has been made, in which there was bony ankylosis, the pericardium was also adherent, and it would be interesting to know whether this is a common feature in adult cases. Subcutaneous nodules which bear a striking resemblance to those met with in rheumatic children are occasionally present in cases of rheumatoid arthritis. Those which I have seen have not had the transitory existence of the small deposits of lymph in the subcutaneous tissues of rheumatic patients, and it must not be forgotten that at the period of life at which they have been observed true rheumatic nodules are practically unknown, being confined to childhood and early adult life. We may look forward to hearing Dr. Hawthorne upon this point, for it is one to which he has paid special attention.

The question is one which can only be settled by pathological means, such as bacteriological examination, which in the case of rheumatic nodules has already yielded most interesting results in the hands of Dr. F. J. Poynton and Dr. A. Paine. Indeed it is quite possible that before long bacteriology may throw such light upon the whole problem of the relation of rheumatoid arthritis to rheumatism as will render further discussion of the question futile. Meanwhile it appears to me that the evidence adduced in support of the common causation of rheumatism and any variety of rheumatoid arthritis is not of such a nature as to carry conviction.

If rheumatoid arthritis is not a rheumatic affection, what, then, is its pathology? Clearly this question can receive no satisfactory answer until we know for certain whether we are dealing with one disease or with several diseases. It is quite possible, and even probable, that the several forms differ entirely in their pathology, and that a theory which is true for one form may be wholly incorrect as far as another is concerned.

The nodular or senile cases, with their slow progress and essentially chronic characters, present many features which suggest that the lesion present is of the nature of a degenerative or trophic change in the joints, comparable to the degenerative changes met with in other structures. Such a view of its nature receives support from the striking resemblance of the articular lesions here seen to those met with in the joints of sufferers from certain nervous diseases such as locomotor ataxy and syringomyelia. In these cases, at any rate, there is nothing to suggest a rheumatic origin, and it is in these that the effects of mechanical influences are most marked.

We shall have the advantage of hearing Dr. G. A. Bannatyne, whose name is so closely associated with the bacteriological investigation of the disease under discussion, and who, in collaboration with Dr. A. S. Wohlmann and Dr. F. R. Blaxall, has isolated a definite bacillus from the synovial fluid in a number of cases—a bacillus which they have altogether failed to find in the joints of sufferers from other forms of articular disease. On clinical grounds we should expect that, granting that certain cases of rheumatoid arthritis are infective, the cases concerned would be those of what has been spoken of as the fusiform type. In the similar affection met with in children enlargement of the spleen and lymphatic glands is frequently observed and it is in such cases that the constitutional symptoms tend to be most pronounced.

Among the predisposing causes of the more acute cases debilitating influences take the first place. The onset may follow upon a period of ill-health and attendant lowered vitality, and of late years an attack or a series of attacks of influenza has often appeared to be the predisposing cause of the onset or of the reawakening of the disease from a dormant condition.

The relation of rheumatoid arthritis to gout is another subject of considerable interest and not a little difficulty. Sufferers from chronic gout may exhibit joint changes which in their clinical features bear a close resemblance to those of rheumatoid arthritis of the nodular kind, as, for example, the enlargement of the terminal joints of the fingers known as Heberden's nodes. On the other hand, I can see no valid ground for the belief that gout plays any part in the causation of the more acute forms.

There is certainly still much room for the accumulation of facts, both clinical and pathological, bearing upon the nature of rheumatoid arthritis. Let us first make sure that when we employ this term or any other terms which may eventually replace it we are referring to some one definite morbid condition and not to a congeries of diseases only superficially alike. Then by the diligent piling up of fact upon fact, a task which will provide employment alike for the clinician, the bacteriologist, and the morbid anatomist, we may hope to construct a foundation so solid that the superstructure of theory raised upon it will be capable of resisting any strain to which it may be subjected. In the present state of our knowledge one is justified in taking up an expectant attitude in this matter, and I for my part feel certain of one thing only, which is that I know far less about the pathology of rheumatoid arthritis than I thought I did ten years ago.

Chandos-street, W.

LANCASHIRE AND INEBRIATE REFORMATORIES.—On Feb. 28th a meeting was held at Preston of the Lancashire Inebriates Acts Board, at which a scheme and plans for the reformatory buildings to be erected on Brockhall Farm, Clitheroe, were approved. The "home" system has been decided on in preference to a large central block, each home to contain eight inebriates, with a day-room, attendant's room, scullery, store, bathroom, bootroom, and a separate bedroom for each inmate.

THE TOXICOLOGICAL DETECTION OF ARSENIC AND THE INFLUENCE OF SELENIUM ON ITS TESTS.

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OF the various tests for the detection of arsenic in minute traces the "Marsh," the "Reinsch," and the "Gutzeit" tests are the most commonly employed. Each test has its respective advantages, but for delicacy and reliability I think that toxicologists would undoubtedly place the carefully applied "Marsh" test easily first, and that next would come the "Reinsch" test and then the "Gutzeit." Certainly by the "Marsh" test one can detect almost infinitesimal amounts of arsenic, even as small as $\frac{1}{100}$th of a grain of arsenic tri-oxide per gallon, and the "Reinsch" and "Gutzeit" tests would not approach this delicacy as ordinarily applied. I propose in this paper to consider some points of importance in connexion with the "Marsh" and "Reinsch" tests and also the influence of selenium on them.

I have adopted the following neat and convenient method of performing the "Marsh" test. Perfectly pure zinc and sulphuric acid are used to generate the hydrogen in a flask provided with an exit tube which is filled with dry calcium chloride, and the escaping dry gas passes through hard glass tubing which has been drawn out into a long narrow portion. The portion of tube which is heated to redness lies within a clay chimney and rests on a clay tube, and the solution to be examined is introduced through a funnel, and the heating continued for one hour. Small amounts of pure sulphuric acid are added from time to time so that a constant slow evolution of hydrogen may continue. If arsenic be present it will deposit on the portion of the tube beyond and commencing at a point about one inch from the clay chimney. It is found that with the purest zinc, quite free from arsenic, and with the purest sulphuric acid, a white deposit is obtained on that portion of the tube which is nearer to the chimney than the arsenical deposit. This deposit occurs with the zinc and acid alone—i.e., in a blank test; also it is much more marked often when various substances are being tested, whether arsenic be present or not. Toxicologists have long been familiar with this white deposit, but I do not think that its true nature has been demonstrated up to the present.

I. *On the nature of the white deposit formed during the "Marsh" test.*—This deposit is sulphur in an amorphous form. If a large amount of pure zinc be used in the "Marsh" test and perfectly pure acid a fairly considerable white deposit is obtained. The deposit is amorphous on microscopic examination. It is soluble in carbon-di-sulphide. If the portion of the tube containing it is fused with pure "fusion mixture" to which has been added some potassium nitrate, on dissolving the mixture in dilute HCl and adding barium chloride solution a definite precipitate of barium sulphate is obtained (I may say that in this test the freedom from sulphur of the chemicals used was first demonstrated). The above tests prove that the deposit is sulphur. It is no doubt formed by the presence of very minute traces of zinc sulphide, which occur in even the purest zinc. The solution of the zinc sulphide in the acid causes the evolution of very minute traces of sulphuretted hydrogen which are decomposed into hydrogen and sulphur in the heated part of the tube, and the sulphur deposits on the portion just outside the clay chimney. I was able to confirm the above in an interesting way by adding a few drops of very dilute ammonium sulphide solution to the contents of the flask in a blank "Marsh" test when very soon a large white deposit formed in the same portion of the tube which had all the characters of the white deposit above described.

II. *The prevention of the white deposit.*—It at once occurred to me that to prevent the appearance of the white deposit one must introduce into the flask some substance which will fix the small amount of sulphuretted hydrogen which is formed. A salt of mercury (because of the insolubility of mercuric sulphide) was used—viz., mercuric chloride. It was found effectually to prevent the formation of the white deposit, but it is at once *prohibited* from use by the fact that it also prevents the evolution of arseniuretted hydrogen if arsenic be also added to the contents of the flask for then no mirror results. This was to be expected from the chemistry of the "Gutzeit" test. I next tried lead salts. These could not be placed in the generating flask because of the action of sulphuric acid on them forming insoluble precipitates, so (1) lead carbonate was placed in the drying tube with the calcium chloride and the test performed. It was found that still a very small deposit of sulphur occurred, but the formation of the arsenic mirror was not interfered with at all should arsenic be present. (2) The evolved gases were passed through potash bulbs containing solution of lead acetate in order to absorb the H_2S evolved, then through a calcium chloride tube, and then through the heated tube. It was found that this answered admirably. No white deposit of sulphur occurred in the portion of tube just beyond the clay chimney, while at the same time the lead acetate solution did not interfere in the very slightest with the delicacy of the test when minute quantities of arsenic were introduced into the flask. The white deposit above described and its nature and prevention are of scientific rather than practical importance. Its presence does not interfere at all with the observation of the arsenical (black) mirror if present, so that I should not advise as a routine practice in the "Marsh" test the passage of the evolved gases through lead acetate solution.

III. *On the influence on the delicacy of the "Marsh" test when substances are introduced into the heated portion of tube (within the clay chimney).*—I think this is of extreme importance to the toxicologist, and it has certainly not been recognised that finely divided substances in the heated portions of tube have a very great influence in preventing the deposition of the arsenical mirror. I first recognised this fact in preparing a series of standard "Marsh" mirrors with solutions of arsenic of varying strengths, when it was at once found that the mirrors were very much smaller if a mixture of carbon and dry sodium carbonate were placed in the heated part of tube immediately over the flame. Indeed, the mirror may be entirely prevented from appearing. In many of the standard descriptions of the "Marsh" test it is recommended to use a mixture of carbon and dry sodium carbonate in the heated portion of the tube in order, so it is said, "to retain any sulphur which may be coming off and which will interfere with the deposition of the arsenic." As a matter of fact, the mixture of carbon and sodium carbonate itself interferes with the deposit of the arsenical mirror and I can positively assert that this mixture prevents as much as nine-tenths of the arsenic from depositing in the mirror form when minute quantities of arsenic are being tested for. It at once suggested itself to me that one of the bodies, the carbon or the sodium carbonate, was responsible for this, but to my astonishment I found that each is able to prevent the formation of the arsenical mirror. Thus, if the heated portion of the tube (within the clay chimney) is filled with either dried sodium carbonate or carbon, and in either case half a milligramme of arsenic tri-oxide introduced into the flask, in each case almost the whole of the arsenic is retained and scarcely any arsenical mirror results, while with nothing in the heated portion of tube a very large mirror resulted with half a milligramme of arsenic.

It next occurred to me to try some inert finely divided substance in the heated portion of the tube instead of carbon or sodium carbonate. Fine sand was used which had been previously ignited. The astonishing fact was demonstrated that sand in the heated portion of the tube (within the clay chimney) caused the retention of almost all the arsenic and only a very minute mirror was obtained. In this experiment half a milligramme of arsenic tri-oxide was introduced into the flask. The sand became perceptibly darkened in colour but no amount of heating would cause it to give up its absorbed arsenic. It seems, therefore, that any finely divided heated substance may cause the retention of the arsenic in the "Marsh" test and perhaps the explanation is of a physical rather than a chemical nature. At all events, the fact is of extreme importance to every toxicologist. The moral is that in performing the "Marsh" test no substance at all should be placed in the heated portion of the tube or the deposition of the arsenical mirror will be prevented.

IV. *On the influence of selenium on the "Reinsch" and "Marsh" tests.*—If the "Reinsch" test be performed on a dilute solution of selenium (10 milligrammes of selenious acid were used) a dull greyish deposit forms on the copper which

if cleansed as usual and ignited in a small test tube gives a white sublimate indistinguishable macroscopically from arsenic tri-oxide, but under the microscope the sublimate does not show the characteristic octahedra and tetrahedra of arsenious acid. If the "Marsh" test be performed on a dilute solution of selenium (10 and 20 milligrammes of selenious acid were respectively used), as correctly stated by Dr. F. W. Tunnicliffe and Dr. Otto Rosenheim,[1] no deposit occurs in the tube at the site where the arsenical mirror usually forms, and the selenium deposits in the flask as a dark reddish precipitate and inhibits the evolution of the hydrogen to some extent.

Now although selenium does not give any result *per se* with the "Marsh" test in the absence of arsenic, yet the astonishing fact was demonstrated that it has a most decided influence on the nature of the mirror if arsenic be also present.

Experiment 1.—If half a milligramme of arsenic tri-oxide be introduced into the flask with 10 milligrammes of selenious acid the resulting mirror is quite different in appearance from that obtained from the arsenic alone. Thus the proximal half of the mirror is of a vermilion red colour, while the distal portion has the usual appearance of the arsenical mirror; but much of the arsenic appears to be retained and the true arsenical portion of the mirror is only about a tenth of the size of that obtained from the same amount of arsenic with no selenium (*vide* Fig. 1).

Experiment 2.—A fresh experiment was performed with five milligrammes of selenious acid and half a milligramme of arsenic tri-oxide; the resulting mirror was of the same nature as the preceding, but the true arsenical portion was larger, being about one quarter the proper size, and the proximal portion was still of a vermilion red colour (*vide* Fig. 2).

Experiment 3.—A fresh experiment was performed with half a milligramme of arsenious acid and one milligramme of selenious acid in flask. Here the influence of the selenium was only slight. No red was detected in the proximal portion of the mirror, and the arsenical portion of the mirror was about from one-half to two-thirds as large as that

FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

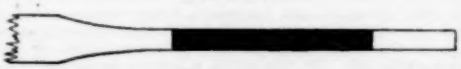

Fig. 1. Mirror from one-half milligramme of As_2O_3 and ten milligrammes selenious acid. Fig. 2. Mirror from one-half milligramme As_2O_3 and five milligrammes of selenious acid. Fig. 3. Mirror from one-half milligramme As_2O_3 and one milligramme selenious acid. Fig. 4. Mirror from one-half milligramme As_2O_3 alone. The solid black shows the extent of the arsenic mirror. The vertical shading shows the vermillion selenious portion and the horizontal shading the brown selenious portion.

obtained without any selenium present. Still, there was a definite difference observable between the mirror obtained with half a milligramme of arsenic tri-oxide and one milligramme of selenious acid and one from half a milligramme of arsenic tri-oxide alone. In the former case a proximal brown portion of about half an inch in length preceded the true arsenical mirror (*vide* Figs. 3 and 4).

The above results are of great interest, for they prove that if it is granted, as has been suggested, that the recent beer-poisoning epidemic has been due to selenium and not arsenic, then certainly many instances must have occurred where the selenium had been found in amounts 20 or 10 times as great as the arsenic, as in Experiments 1 and 2 above, and if so, then most characteristic and peculiar mirrors would have been obtained by the "Marsh" test, applied, as it certainly has been applied, to many of the contaminated beers and sugars.

Now it has been my privilege to examine many of the samples of contaminated beer from Manchester and the district round, and from all these samples by the "Reinsch" test characteristic octahedral and tetrahedral crystalline sublimates were obtained of arsenic tri-oxide evidently (since selenium does not give the characteristic crystalline sublimate). By the "Marsh" test in no case were the curious characteristic mirrors obtained, such as are given by selenium with small amounts of arsenic (Experiments 1 and 2, Figs. 1 and 2). Hence I think that these facts conclusively prove that the poisoning could not have been due to selenium primarily and arsenic secondarily, as has been suggested, for the mirrors obtained by the "Marsh" test on the contaminated samples would have at once demanded attention by their most remarkable appearance.

St. Mary's Hospital, W.

[1] THE LANCET, Feb. 2nd, 1901, p. 318.

SEPTIC DISEASE IN GRADUATED ATTACKS IN THE SAME PATIENT.

BY J. SNOWMAN, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

THE following case affords an interesting study of variations in the development of the same disease in the same individual at different times but under similar predisposing circumstances. The facts concern a healthy female who was 34 years of age when her present history began five years ago. She was then lying-in with her sixth child and had three or four severe rigors between the third and sixth days. As these rigors, in which the temperature rose to 105° F., were not accompanied by any untoward abdominal or uterine symptoms, and as convalescence was established normally, the condition was regarded as one of those vague cases of puerperal pyrexia of uncertain origin. These cases, which have been variously attributed to milk fever or nervous disturbance, are now considered by the best authorities to be septic in nature and are to be interpreted pathologically as the successful resistance of the healthy organism against an attack of the micrococci of septicæmia.

The patient became pregnant again towards the middle of January, 1898. After seven weeks' amenorrhœa she aborted. The abortion was attended by severe hæmorrhage so that no traces of the embryo were to be detected in the portions of the ovum which were expelled piecemeal. When the patient was first seen the uterus could be felt midway between the pubes and umbilicus; it was soft and compressible and evidently filled with blood-clot. The temperature was 102° and the cervix admitted one finger, but the internal os was closed. The blood contained in the uterus was expressed and its cavity irrigated with Condy's fluid. For two days all went well, but on the third day the patient had a rigor, with a temperature of 104°; there were abdominal pains, but no real tenderness was present. The rigor was followed by profuse sweating. The external os still admitted one finger, and the uterus was enlarged, its contents being chocolate coloured. Irrigation of the uterus was continued. The temperature became normal during the day, but on the following evening there was another rigor and the temperature rose to 105°. The uterus was then thoroughly explored with the finger, counter pressure being made over the hypogastrium. By this manœuvre a few shreds were removed. The next few days were uneventful, but bruises gradually appeared on the hypogastrium where the fingers had exerted pressure and on the vulva from the pressure of the thumb of the examining hand. The temperature rose to 103° and these bruises, four in number, became large inflammatory indurated swellings. The uterine condition was now quite healthy, but three of these local swellings suppurated and required free incisions to give vent to the pus. After

this the temperature gradually fell and the patient soon recovered.

These facts may be interpreted to mean that the patient was threatened with septicæmia in this abortion, as she had been in her previous confinement. It may be that her tissue resistance would again have repelled the attack of the streptococci; it may be that the digital curetting of the uterus after the second rigor saved the situation. In any case the micro-organisms of suppuration were in the blood producing a toxæmia, but instead of proceeding to a general pyæmia they spent themselves in the *loci resistentiæ minoris* afforded by the bruised areas of the hypogastrium and vulva, and there their specific action was exerted.

The next pregnancy of the patient also terminated abruptly in an abortion, but unfortunately the septicæmia with which it was again attended did not abort. The patient's last menstrual period ended at the beginning of September, 1899. She then had amenorrhœa for five weeks, when a sanious discharge made its appearance and lasted for three weeks, culminating in the expulsion of a clot on Nov. 5th. On that day the patient experienced a severe rigor. On making a vaginal examination the following day it was found that the cervical canal was open and the uterus distended to the size of a three months pregnancy. The temperature was then 101°, but that night there was another rigor. At 6 A.M. on Nov. 7th a complete abortion took place, the ovum being expelled entire, and it was a perfect specimen of six and a half weeks' growth. The temperature was then 99°. On Nov. 8th there was another rigor; the following morning the temperature was 102°, there was slight œdema of both legs, some fulness in the ankles and knees, with tenderness on deep pressure. There was also pain in the right shoulder-joint severe enough to prevent movement. The temperature fell to 99° the next day, but rose gradually to 104° in the afternoon, while the pain and swelling in the left ankle and knee increased. The condition of the left knee became much worse and assumed the appearance of very acute osteo-arthritis; the temperature rose to 105·2°. For the next few days it fluctuated between 101·5° and 104°, but the swelling of the knee and ankle decreased somewhat, so that free passive movement was possible in the latter joint. Some erythema which had been present over the ankle disappeared completely. The circumference of the left thigh just below the apex of Scarpa's triangle was two inches greater than that of the right in the corresponding position. But with the indications of apparent subsidence of the mischief in the lower limb redness and effusion began to appear over the right wrist, marking out at first the synovial sheath superficial to the joint. This condition increased and the well-defined redness gave way to an œdematous surface of a purple hue. With this a similar patch, possessing all the physical characters of erysipelas, began to appear over the left olecranon. The elbow-joint was not involved. While the swelling over the right wrist was becoming fainter and less dusky the cutaneous inflammation over the elbow was spreading. Meanwhile the left ankle became quite free in its movements, though œdema of the foot persisted; there was still pain on attempting to extend the knee from its flexed position, though it could with difficulty be straightened out. Neither at this time nor at any time during the whole course of the illness was there any uterine trouble. That organ was freely moveable and there was no induration in the pelvic cellular tissue. During the next few days the erysipelatous patch over the left elbow crept up as far as the shoulder and half-way down the forearm; then it began to subside gradually, leaving the limb considerably increased in size. The effusion over the right wrist still persisted and it became obvious from the general condition and the temperature chart that the swelling had suppurated. On Nov. 27th the swelling was opened under A.C.E., and about two ounces of thick curdy pus were evacuated, hot fomentations being subsequently applied. For the next few days there was favourable progress, the incision was healing well and the temperature kept below 101° F. Then the leg began to be extremely painful and the œdema increased. Occasionally the pain was agonising—neither active nor passive movement was possible. At this time there were decided bogginess and distension of veins over the posterior surface of the left elbow and pain in one definite spot on the olecranon process. In the interval between the olecranon and external condyle there was a distinct sense of fluctuation and there appeared to be inflammatory exudation from this area extending lower down the limb, but the movements of the joint were quite free. The general state of the patient pointed to more pus in the body and the physical signs of the elbow region seemed to localise it there. But an incision down to the bone in the œdematous area failed to reveal any purulent collection. As the patient was under an anæsthetic the knee-joint was explored by means of a syringe but only clear fluid was drawn off. The syringe was again inserted into the œdematous thigh, in the lower and outer third, and on this occasion some purulent fluid was removed. The puncture was enlarged by an incision one and a half inches long and about three-quarters of a pint of dark sanious pus escaped. A counter opening was made towards the posterior surface of the limb and a large drainage-tube was inserted. This operation was performed on Dec. 14th and from this time matters improved considerably, but only for a few days. It became obvious that the drainage was imperfect and that the abscess cavity was bagging. The temperature rose again to 103°, the pain in the knee increased, and the discharge practically ceased. On Dec. 28th the patient was again anæsthetised and the knee explored with a syringe; there was no pus and but very little clear fluid. On pushing a long probe downwards from the lower incision on the outer side of the thigh it was found to penetrate the joint, and its end could be felt projecting at the inner side of the knee. Through the original incision in the thigh about two inches of bare femur could be felt. This incision was extended downwards and a counter incision was made on the back of the limb, a drainage-tube being passed right through. Another incision was made along the course of the probe inserted in the limb. A further incision was made into the knee-joint from the outer side and it was found that adhesions were forming between the articular cartilages. This incision was stuffed with iodoform gauze and the limb fixed on an interrupted back splint. The drainage was now free, and after a couple of days the temperature fell to normal, and with one or two occasional elevations to 100° remained so permanently. Pus discharged in small quantities from the incisions for about three weeks, and when the tubes were completely removed the wounds healed absolutely well without leaving sinuses. A poroplastic felt splint was fitted to the knee and the patient was encouraged to sit up in bed. Massage and passive movements were begun. Convalescence was very tardy owing to œdema of the leg and foot, with a markedly cyanotic condition of the latter. On March 9th, 1900, the patient sat up out of bed for the first time, and from this date improvement was steady, so that now she is in perfect health with the exception of some ankylosis of the knee.

The foregoing is, of course, the history of a typical attack of pyæmia ending in recovery and forms the climax of the gradual series of septic disease from which the patient has suffered. The interest of the case is certainly considerable, and looked at from the point of view of its relation with the preceding attacks, similar in nature but different in degree, gains in importance. It is perfectly clear that this patient possesses the power of elaborating from her own tissues an antitoxin which is inimical to the growth of the streptococci of suppuration. Their first invasion was met by an immediate production of antitoxin and the only indications of a struggle were the pyrexia and rigors. On the second occasion the mobilisation of the chemical forces of the body was less rapid, there were weak spots in the defence—i.e., the bruises of the impressed finger-marks—and here local suppuration occurred. But still the general preparations of tissue resistance proved to be good and a pyæmia was warded off. On the third occasion, however, either from the intensity of the attacking poison or delay in the elaboration of the defensive antitoxin, the resistance was slow and there was time for true embolic or pyæmic processes to take place before success was achieved.

The entrance of the cocci must obviously have been through the genital tract, and in the last illness was not the result of contagion in the ordinary sense, as the first rigor occurred before any vaginal examination had been made. The case demonstrates that the seat of inoculation may entirely escape the local processes of the disease, and this is a point which should be remembered in making a diagnosis when puerperal pyrexia is not attended by inflammation of the pelvic cellular tissue, peritoneum, or uterine appendages. Incidentally some light is shed on the pathology of erysipelas, for the occurrence of absolutely typical patches of this condition warrants us in discarding the time-honoured doctrine that this disease must be preceded by a breach of surface to serve as the site of inoculation.

Erichsen records a case of pyæmia in which a collection of pus was found in the intermuscular strata of the lower third of the thigh. There was a free communication between the abscess cavity and the knee-joint and the author concludes that the joint had suppurated and its contents extravasated into the tissues of the limb. In the present case it will be remembered that the probe inserted into the abscess cavity passed right down into the joint. In dressing the limb it was seen that all the pus came from below upwards, and when drainage was deficient pus could only be obtained on making pressure in that direction. Assuming that in the present instance the joint suppurated and that the pus found its way into the tissues of the thigh the subsidence of the effusion in the knee and the increased circumference of the limb are easily explained.

It is important to note that this case narrowly escaped record as an example of cure by anti-streptococcic serum. About the fourteenth day of the disease, when its septic nature had long become obvious and the condition of the patient was exceedingly grave, the temperature remaining between 102° and 104°, it was determined to use this serum, and preparations were actually made for this purpose. At the very last moment, however, in view of the fact that so far there had been no actual evidence that it was a pus-producing organism which was at work, the injection was abandoned. The very next morning the temperature had fallen from 104° to 99°. If the injection had been administered it would have been held responsible for this sudden drop and would doubtless have been regarded as having influenced favourably the whole course of the disease. The treatment of the case on ordinary surgical lines shows that it was not any antitoxin artificially injected into the tissues which determined recovery, but the actual production of the antitoxin from the constituents of the blood of the patient.

Spitalfields, E.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

PAROTITIS AFTER ABDOMINAL SECTION.

BY BERTRAM ADDENBROOKE, M.D. DURH., M.R.C.S. ENG., &C.

IN THE LANCET of Jan. 19th, 1901, p. 176, Dr. William Elder records a case of parotitis after abdominal section, a brother of the patient who was living in the same house having had an attack of parotitis epidemica (mumps) 49 days previously. This, considered in contrast with cases under my care where two cases occurred in other members of the family after parotitis in a patient, a sequel to abdominal section,[1] is, as Dr. Elder remarks, very interesting, and although he is of opinion that it is doubtful whether his case was one of parotitis (from metastasis?) or true mumps, I venture to think that the previous occurrence of parotitis epidemica in the house was only a coincidence. There is, however, one very striking point of resemblance between the cases reported by Dr. Elder and by myself. It is this: three days after the operation on his patient parotitis developed, and as I recorded in THE LANCET of Dec. 29th, 1900, there was the same duration of time in the case under my care and, furthermore, in the two other members of the family who subsequently suffered from parotitis there was the same interval between the exposure to infection and the supervention of parotitis as in the abdominal cases—namely, three days.

Kidderminster.

DORSAL DISLOCATION OF THE FIRST PHALANX OF THE LITTLE FINGER.

BY EDWYN M. RIDGE, M.R.C.S. ENG., L.R.C.P. LOND.

HAVING seen the article on Dorsal Dislocation of the First Phalanx of the Little Finger by Mr. Harold L. Barnard in THE LANCET of Jan. 12th, 1901, p. 88, I think it would be interesting to record a case of what he calls a "complete complex dislocation" which came under my notice shortly afterwards. A youth, aged 19 years, came into the receiving-room of the Poplar Hospital for Accidents where repeated attempts were made at reduction by the ordinary methods. He gave a history of falling backwards and in putting out his hand behind him to save himself he bent his finger backwards. Further attempts were made under an anæsthetic without avail, and then the simple operation suggested by Mr. Barnard was resorted to with very favourable result, the patient making an uneventful recovery, good movement and power being already attained. The way in which the accident occurred in the case which I have described seems to me much more likely to happen frequently than that which Mr. Barnard alleges.

Enfield.

SERUM TREATMENT OF DIPHTHERIA ON THE FOURTH DAY OF THE DISEASE.

BY RALPH S. MCD. PULLEN, M.R.C.S. ENG., L.R.C.P. LOND.

ON a Wednesday evening recently, at 11 P.M., I was sent for to see a child, aged four years, who was stated to be suffering from a "sore-throat." The patient had been taken ill on the previous Sunday. I found the tonsils covered with membrane and bleeding. There was a nasal discharge. Such difficulty of breathing as existed was due to nasal and not to laryngeal obstruction. The temperature was below 100° F. At midnight I administered an injection of serum under the skin of the abdomen. The patient was comfortable and slept during the night and in the morning appeared somewhat brighter as regarded her general condition. I advised her removal to hospital where she received a second injection at 1 P.M. on the Thursday. The membrane disappeared with marvellous rapidity and the general improvement was very marked. She has made a good recovery up to the present time.

I communicate this case as I consider the interest lies in the successful issue of an injection at such a late period—some 96 hours—after the invasion of the disease.

Stoke, Devonport.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF RECURRENT APPENDICITIS COMPLICATED BY GENERAL SEROUS PERITONITIS AND EFFUSION.

(Under the care of Mr. W. G. SPENCER.)

PROBABLY the rarest complication of inflammation of the appendix is a serous—i.e., non-purulent—effusion and this is due to the fact that if an appendicitis is sufficiently severe to cause any peritonitis this will be due to the passage of micro-organisms through the wall of the appendix, and these micro-organisms are nearly always pyogenic. If, however, merely toxins pass into the peritoneum or microbes of a mild type then a non-purulent peritonitis may arise which may disappear after drainage. It would have been of interest to have had the result of a bacteriological examination of the peritoneal fluid in the following case, and an examination of the sputum in the pneumonia might have shown an identity in microbic infection between the peritonitis and the pneumonia. For the notes of the case we are indebted to Mr. A. Whitehouse, dresser.

A well-nourished generally healthy man, aged 24 years, was admitted into Westminster Hospital on Dec. 29th, 1900; there had been severe pain in the abdomen and repeated vomiting for the previous 24 hours. He had had a right inguinal hernia operated on by Mr. W. Anderson at St. Thomas's Hospital. In November last the patient had been suddenly

[1] THE LANCET, Dec. 29th, 1900, p. 1873.

seized with pain all over the abdomen and had vomited all one night, after which he was admitted to a medical ward in Guy's Hospital. He was placed on a milk diet, the pain subsided, and he left the hospital being told that he had had an attack of appendicitis.

After admission to Westminster Hospital repeated bilious vomiting occurred, the temperature was 100·6° F., the respiration was 24, and the pulse was 108. The abdomen was distended by free fluid without gas, there was pain all over, but the patient referred the most severe pain to McBurney's point. Nothing was to be felt in the right iliac region or in the rectum. The bowels had been regular. The diagnosis made was general septic peritonitis following recurrent appendicitis and perforation.

On making an iliac incision nothing abnormal was found outside the peritoneum. On incising the peritoneum straw-coloured serous fluid poured out abundantly. The appendix was found freely floating over the pelvic brim and was not thickened. Its surface, as well as the intestines within view, simply showed dilatation of the capillaries on their serous surface without any lymph or adhesions whatever. The appendix was excised and a rubber tube was passed through the wound down into the pelvis.

Serous fluid drained freely away for three days, and the tube was removed on the fourth day. The pulse, which reached 130 on the first day, became normal on the fifth. The temperature fell at once to normal. The bowels were opened freely by calomel on the fifth day, after which the abdomen remained soft and free from tenderness. Thirteen days after the operation, whilst lying in a bed beside the fireplace, he had an attack of right basic pneumonia. The temperature returned to the normal five days later and the rusty sputa soon became muco-purulent. The patient was kept in bed for a month after the operation and was discharged on Feb. 7th apparently quite well.

The appendix, on being slit open, showed a constriction of the lumen at the junction of its middle and distal third, it contained fæcal mucus but no concretions, and the inflammation had not increased the thickness of its wall to any noticeable extent.

Remarks by Mr. SPENCER.—Among the many varieties of appendicitis the above case is a rare instance. Before the operation the condition was supposed to be one of general septic peritonitis following upon perforation. There was nothing to account for the general serous peritonitis unless the attack of pneumonia during convalescence points to an individual predisposition to catarrhal inflammation. The peritonitis was arrested by the drainage.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.

A CASE OF LATERAL LITHOTOMY SUCCESSFULLY PERFORMED IN A SMALL BOY FOR THE REMOVAL FROM THE BLADDER OF A STONE OF UNUSUAL DIMENSIONS AND WEIGHT.

(Under the care of Mr. T. VINCENT JACKSON.)

THE lateral operation of lithotomy is becoming every year more rare, and rightly so, for we have in lithotrity a method which in skilled hands gives better results; but lateral lithotomy was especially successful in boys, for the mortality ranged from 2 to 4 per cent. There are even now some cases of vesical calculus in which a cutting operation offers a better chance of success, and we agree with Mr. Vincent Jackson that the large size of the stone in the following case was a strong argument in favour of lithotomy.

A boy, aged seven years, residing at Cannock, on May 2nd, 1900, attended as an out-patient at the Wolverhampton and Staffordshire General Hospital with symptoms of gravel, and on a vesical stone being detected by sounding he was admitted into the hospital. The family history narrated by the mother gave no indication of a tendency to gout, uric acid, renal or vesical trouble. The boy's dietary had been simple, butcher's meat not having been taken in excess, milk in moderation being the chief fluid. Micturition had been painful since the patient was four years old and this symptom had increased in frequency, duration, and intensity. The microscopic examination of the urine indicated the presence of pus, but no blood corpuscles, crystals, or renal casts. The boy was physically small for his age but was not unhealthy-looking. On the 11th (the patient being blindfolded) a soft catheter was passed into the bladder, its contents flowing away; then two or three ounces of warm sterilised water were injected and left in and the catheter was drawn out. Next the urethra was fully distended by a local anæsthetic (1 per cent. of eucaine and 2 per cent. solution of suprarenal capsule). After waiting a while a boy's lithotrite, the largest the urethra would admit, was with difficulty finessed into the bladder and a stone, which evidently was a hard one and of unusual bulk, was with careful manipulation seized by the points only of the lithotrite, the blades of which had to be separated for fully two inches. It was determined to perform lateral lithotomy, and, chloroform being given, this was accomplished with greater facility than Mr. Jackson expected, the operation being commenced and completed under two minutes; no artery spurted. A glass tube was tied in the bladder and removed two days later. On June 3rd, when the patient was discharged from the hospital, the wound had healed, the lad having been out of bed for the past week. The stone weighed 2 ounces 2 drachms and was fairly smooth on the surface. The actual measurements were as follows: circumferential length, 6½ inches; circumferential breadth, 5 inches; and thickness, 1¼ inch.

Remarks by Mr. JACKSON.—Lately I have been reading with much surgical pleasure "The Stone Number" of the *Indian Medical Gazette* (August, 1900), kindly lent by Dr. D. F. Keegan, now wintering in the Tyrol. Dr. Keegan's contribution is worth any time spent over it; it is historical of the rise, progress, and the statistical position of "lithotomy" (I wish this word was dropped and "lithotrity" was substituted) and the record of 500 cases with a mortality of 11 and a death-rate of 2·2 per cent. is so reassuring that I do not wonder that the operation in children is much more generally adopted at home than it used to be, and I am convinced that for a stone in the bladder of a size not prohibitory crushing rather than cutting is the operation which should be resorted to if the local conditions are favourable and a careful preparatory examination brings to the surface no prohibitory conditions either in the kidney or bladder. Off hand, as a summary of what is in my mind as conditions which may be put down as a bar to crushing, I may mention renal disease (this is sometimes very difficult to fathom and its non-detection is one of the disasters sequential to lithotrity—of Dr. Keegan's 239 cases five succumbed from advanced kidney disease); large encysted and hard oxalate of lime stones; deposits of calculous material on the inner walls; a sacculated bladder, cystitis, and putrid urine. Here I may quote from THE LANCET[1]: "No surgeon can doubt after reading our contemporary's special number that at the present time the safest and the most speedy method of removing a stone from the bladder in nearly every case is Bigelow's operation of lithrotrity." Although this is quite true and is a governing statement of what the surgical treatment of stone in the bladder of boys should be, yet let me point out that as a signpost I extract from the *Indian Medical Gazette* for December, 1886, p. 356, a case under the care of Dr. R. Caldecott in which the patient died shortly after a crushing operation, the cause being found post mortem to be peritonitis induced by a sharp-pointed fragment of stone having pierced the wall of the bladder and lying in the rent. A second death, two days after operation, followed lithrotrity for an oxalate of lime stone weighing 242 grains, the operation lasting 71 minutes. Lithotomy might have saved these lives.

I do not consider that in the case which is reported there is much room for controversy as to the most fitting and safe surgical procedure to be adopted for the cure of the little boy. A surgical authority of large experience in the operative treatment of vesical calculus has enunciated the dictum that every stone weighing two ounces and over is to be regarded as a large stone and dealt with accordingly. I confess that I jibbed at an attempt to perform lithotrity, and fixing on lateral lithotomy I performed that operation, and the rapid and easy recovery of the patient is the best justification of the selection.

[1] THE LANCET, Jan. 19th, 1901, p. 193.

HEALTH OF NEWQUAY.—Dr. A. Hardwick, the medical officer of health of Newquay, Cornwall, reports that during the year 1900 the death-rate was 10·4 per 1000, being the lowest rate for the past six years. He states that the population was estimated at 2600. There were 207 cases of infectious diseases notified during 1900, of which 192 were measles.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on Immunity.

A MEETING of this society was held on March 12th, Dr. F. W. PAVY, the President, being in the chair.

Professor SIMS WOODHEAD opened a discussion on the subject of Immunity. After referring to the magnitude of the subject he remarked that though some observers might have modified their opinions during the past eight years as to the exact part played by Metchnikoff's phagocytes, all would agree that without his epoch-marking work it would have been impossible to discuss other theories with any degree of intelligence, for upon the phagocyte theory the "side-chain" theory of immunity and antitoxin production depended for its inception and conception. He mentioned that whilst in Edinburgh he and Dr. Cartwright Wood had carried out a series of experiments on the production of immunity by means of soluble products, in which they thought they obtained a condition in which special activities of the cell were drawn out, comparing the cell to a many-faceted body, each facet of which was enabled to withstand the attacks of poisons or substances which they had been trained to resist. He referred to the theory of separable enzymes and external metabolism, to Bouchard's "antibodies" produced by all cells, and then spoke of Behring's more systematic observations on the action of toxins in producing antitoxins. Referring to the "overflowing" of antitoxins from the cells he maintained that this was comparable to the overflowing of the toxins from the bodies of organisms. There were some "properties" or "functions" which appeared to be separable only with great difficulty from the bodies of micro-organisms, so also there might be certain properties or functions which were more intimately bound up in the protoplasm of the cell. In so far as these were distinct he maintained that immunity was distinct from antitoxin production, but in so far as they were interchangeable and collateral immunity and antitoxin production must run side by side. He referred to Bütschli's theory of the structure of protoplasm and the relation of metabolic products to the protoplasm, and pointed out that, if they accepted this theory, then immunity and antitoxin formation, though not the same, must in many cases be very nearly related. He then explained Ehrlich's idea that in regard to immunity the toxic action of a toxin was practically a matter of little importance, in so far as a toxin did not produce its antitoxin by virtue of its toxic power, but because on introduction into the animal body in such a way that its immediate destruction was avoided it was assimilated—i.e., it entered into very close combination with the protoplasm of the cell, and as a result of this assimilation they had the production and overflow of antitoxic substances from the specially stimulated cell. But the production of immunity against disease appeared to be merely a part of a general process going on where albuminoid substances were being assimilated by living protoplasm. In this connexion he referred to the late Dr. Walter Myers's experiments on immunity against Proteids[1] and indicated their importance in regard to the specific effects produced by proteid poisons in determining immunity and antitoxin production. The study of the ferments formed by pathogenetic organisms could perhaps be best advanced by continuing the study of the non-pathogenetic enzymes, haemolytic substances and the agglutinins, in connexion with which Ehrlich, Pfeiffer, Gruber, Durham, and others had already obtained such brilliant results. Ehrlich had found that the toxic molecule could be so modified that whilst losing a great part of its lethal activity it still retained its minimising influence on the cells. Dr. Cartwright Wood had proved that it still retained its power of stimulating the cells to produce antitoxin, these observers having their work confirmed by Ritchie. The molecule able to become assimilated by the cell still retained its characteristic power of forming "antibodies." Bound up with the theories of immunity and the source of antitoxin was the question of the nature of antitoxin. One of the original theories put forward by Roux and Vaillard and afterwards emphasised by Ehrlich, that antitoxin was the result of the special stimulation of certain cells, received support from a very large number of observations made during the preparation of antitoxin in the fact that it was only where there was marked reaction, especially of a local character, that there was any increase in the amount of antitoxin produced. He laid special stress on the local reaction because the toxin injected must exert its greatest stimulating power—in fact, one might almost say its only stimulating power—on those tissues with which it came directly in contact, that was before it became mixed with any large quantity of lymph or found its way into the circulation, in which, at the temperature of the body, the combination of toxin and antitoxin went on with great rapidity, the amount of antitoxin in the blood of some of the animals under treatment being thousands, and even tens of thousands, of times the quantity required to neutralise the whole of the toxin injected. Acting locally, however, it might be readily understood how the toxin, given in gradually increasing quantities, could still continue to stimulate the connective tissue cells to the production, excretion, and overflowing of the antitoxin into the surrounding fluids. Behring drew attention to the fact that the tissues might become hypersensitive even when large amounts of antitoxin were present. Such a condition they would expect to find in the more highly organised tissues for which the toxin had a special affinity. Here there might be a kind of local hypersensitiveness induced through want of equilibrium due to over-stimulation. The amount of antitoxin might be great, quite sufficient to protect against toxins introduced in the ordinary way, but inadequate, because it could not all act at one place at once, to counteract the local action of poison specially introduced in bulk and at one point. As regarded the amount of antitoxin produced he might mention that taking the lethal activity of a toxin to represent its quantity and neutralising power he had records of the formation of 20,000 and even 40,000 times as much antitoxin as he used toxin. This was remarkable and indicated one of two things: (1) most probably that the immunising or antitoxin stimulating substance was of the nature of a toxoid or of a proteid molecule that was not highly toxic, and (2) that the process of antitoxin formation went on long after the special and specific stimulus had been removed. The idea that antitoxin was merely a modified toxin was strongly dissented from. In support of this he would put forward the above facts and also the observations made by Martin and Wood as to the nature of albumoses. He himself had found that these albumoses, whatever might be their exact character, were not specially toxic, but, on the other hand, they were in no sense of the term antitoxic. They had the power when introduced into the body of setting up the formation of antitoxin and also the power of producing a very definite immunity. They had also evidence of the cellular origin of antitoxin in the way in which it continued for long periods in the fluids of the animals in which it was produced, long after all trace of toxin had disappeared, although it might be and was thrown out as a foreign body from animals into which it was ingested. The discovery of the linking-on of toxin to proteid bodies, and particularly to special proteid bodies, and the assimilation by cells, with the consequent appearance of anti-bodies, was one of the most remarkable contributions to their knowledge of immunity that had yet been made. He then dealt with the question of polyvalent sera and pointed out how important were Durham's observations in connexion with the subject of relapses. Whether they were justified in accepting this theory of specific reaction or that put forward by Dr. Cartwright Wood, they were gradually working out the extreme specificity of immunity in most cases of disease. A general insusceptibility there was in many cases, but this could usually be increased at the expense of a marked protection against specific bacteria and bacterial poisons. He should leave the specific immunities to be discussed by those who would follow and who had paid special attention to specific diseases.

Professor A. E. WRIGHT did not think with Professor Woodhead that the theories of immunity which were propounded by Metchnikoff and Ehrlich respectively could be regarded as theories which merged into each other[1] Metchnikoff's phagocytosis theory was designed to explain the bactericidal effects observed in the organism. An explanation was found for these in the assumption that the organism of the higher animals corresponded to

[1] THE LANCET, July 14th, 1900, p. 98 et seq.

a colonial aggregation of monocellular organisms, some of which in the form of white blood corpuscles still possessed the properties and exercised the functions of the original free-living monocellular organisms. There was no doubt that the fact that white blood corpuscles emigrated towards the seat of a bacterial invasion and that the bacteria were afterwards found in the interior of the white blood corpuscles and often in a condition of disintegration was brought much nearer to the understanding by the theory propounded by Metchnikoff that the bacteria were incorporated and digested by phagocytes. On the other hand, when they turned from the consideration of the inflammatory and bactericidal effects seen in the organism to the consideration of the problem of antitoxin formation in the organism, the theory of immunity propounded by Metchnikoff failed entirely to provide anything in the way of an acceptable explanation. Metchnikoff's view that the white blood corpuscles voided antitoxins into the body fluids under the stimulus of a toxin might, it was true, be crudely compared with the ex-voiding of mucus which took place when a snail was brought into contact with alcohol, the toxin of the yeast plant, but the mental picture would not explain to them the fact that a number of different specific antitoxins were produced in the organism in response to the introduction of a series of different toxins. This last, as distinguished from the problem of the bactericidal effects exerted by the organism, was the problem that Ehrlich set himself to solve. He asked himself not how it was that bacteria were destroyed in the body, but how it was that when a guinea-pig was injected with a poisonous element—and in some cases the poisons in question were poisons which were brought in contact with the responding guinea-pig for the first time in the history of the individual and the race—an antitoxin was produced whose chemical properties fitted those of the poison as accurately as a key fits into its corresponding lock. Professor Ehrlich had drawn attention to the fact that such antitoxin production took place only when the poisons which were injected were albuminous substances or substances allied to them—when, in other words, the poisons were such as might, the speaker thought, be conveniently denoted as "poisonous foodstuffs." Such "poisonous foodstuffs" would be taken up into cells by virtue of the fact that there were in the cells molecular groups—side-chains—which possessed chemical affinities for the substances in question. Following upon this "occupation" of the side-chains by the poisonous foodstuffs there would occur, in the opinion of Ehrlich, a re-formation of similar side-chains in the cell, which would gradually transform itself into a process of "internal secretion," the product of secretion being a substance identical in its chemical affinity with the toxin with the original "side-chain" constituent of the cellular protoplasm. The further question as to what kind of cells contained side-chains which could be thrown off as antitoxins had been somewhat incompletely treated by Ehrlich; for while he had emphasised the fact that the cells whose side-chains were affected by the toxin were those which responded with a formation of antitoxin, he had, through a certain want of preciseness in the setting forth of his theory, allowed it to be understood that the response took place only in the group of cells which the clinician recognised to be affected by the poison. Such would be the case only with "monotropic" poisons—i.e., poisons which affected only one variety of cell. In the case of "polytropic" poisons—and a very large number of poisons must come under this category—the chief response—i.e., the chief antitoxin production—might take place in tissues which the clinician could not discover to have been affected. Under this category would come the white blood corpuscles which when affected by the toxin would naturally be involved in the production of antitoxins. It was, in the opinion of the speaker, only in this respect, and even here only incompletely, that the theory of Metchnikoff conformed with Ehrlich's theory of the production of antitoxins. Professor Wright then passed to consider the possibility of applying the theory which Ehrlich had propounded to explain the production of antitoxin in the system, to the explanation of the production of bactericidal substances in the blood. A comparison could be established between the two processes when it was considered that the constituents of the bacterial protoplasm were in many cases poisonous and that these constituents passed into solution in the lymph when bacterial cultures were injected into the subcutaneous tissue. An analogy was thus immediately established between the injection of toxins and the injection of bacteria. Similarly an analogy emerged between the response in the form of an antitoxin formation which took place after the injection of a bacterial toxin and the response in the form of a production of anti-bacterial substance which had in the case of cholera and typhoid fever been observed by the speaker to take place in the case of bacterial injections. According to these the essential difference between an anti-bacterial substance and an "antitoxin" (using the term in its ordinary sense) would be that the substance produced in the latter case had a chemical affinity for the substances contained in bacterial filtrate, while the substance found in the former case had an affinity for a substance which was a constituent of the bacterial protoplasm. When it was considered that all substances—not being food-stuffs—which had a chemical affinity for a component of the living protoplasm were by definition poisons for that protoplasm, the circumstance that an antitoxin to a constituent of the bacterial protoplasm was capable of functioning as a bacterial poison was easily explained. Taking his stand upon the identification of anti-bacterial substances with antitoxins (using the term in its widest sense), the speaker proceeded to point out that the phenomena which came under observation after an injection of toxin came under observation also after an injection of bacteria. Just as in the first case the injected toxin circulated for a time in the blood of the injected animal, so after the injection of bacteria a similar negative phase probably occurred. It occurred, so far as the speaker's observations had gone, in the blood after an anti-typhoid inoculation, the negative phase being marked by a decline in the normal bactericidal power of the blood. Again, just as in the case of an animal which had been treated with an excess of toxin the blood might—e.g., in the case of animals injected with excessive doses of snake venom—contain toxic in lieu of antitoxic elements at the period when the blood was usually drawn off, so apparently in the case of an animal injected with an excess of a bacterial culture the blood might when drawn off contain substances which were not bactericidal but anti-bactericidal. Such substances were recently described by the speaker[1] as having been found in the specimens of "anti-typhoid sera" which were placed on the market for therapeutic use. Apart from an actual demonstration of the presence of such anti-bactericidal substances, the presence of such substances in "therapeutic sera" had been concluded by the speaker from the phenomena which he had observed in connexion with a sample of anti-plague serum which had been prepared by Dr. Galeotti in Bombay, in the case of certain anti-streptococcic sera, and in the case of a sample of anti-Malta-fever serum prepared by him (Professor Wright). In the former case, where the effects of the anti-plague serum in question were studied by him in association with his colleagues of the Indian Plague Commission, the serum, though when given by itself it did not exert any noticeable toxic symptoms in guinea-pigs, it had the effect of hastening death in guinea-pigs who were at the same time inoculated with plague.

Dr. SIDNEY MARTIN could not agree with all that Professor Wright had said. The whole subject of the specific character of proteids was becoming cleared up. Some years ago it had been said that it was not possible for a proteid substance to be poisonous or to exert any toxic action upon the body. That was exploded now. There was no reason why albuminous substances should not exert a lethal influence on protoplasm, the composition of which was very delicate. Chemical affinity of proteid substances for cells had been brought out very clearly.

Dr. JAMES RITCHIE remarked that the recognition of the poisonous properties of albuminous substances displayed on protoplasm was no doubt important; but to his mind it was still more interesting to note that pathologists were more and more coming to the conclusion that all the fundamental pathological conceptions were biological. He paid a tribute to the late Dr. Walter Myers's work on immunity set up in animals against certain proteid poisons. This opened up a field for the differentiation of the many various kinds of albumin which might be alike in all respects excepting the way in which they reacted to a particular toxin. The want of proportion between the amount of a toxin introduced into an animal and the amount of antitoxin which resulted

[1] THE LANCET, Jan. 12th, 1901.

was a very remarkable fact which needed explanation. He had lately been trying the effects of immunising animals by successive doses of the same size instead of increasing doses. There was an enormous rise in the immunity with each dose. Among the many questions which still remained unsolved was this, Why should the immunity once produced be increased? How was it that the second dose was not neutralised by the antitoxin developed from the first dose?

Mr. T. J. BOKENHAM wished to approach the subject from a clinico-pathological standpoint. How was it that patients were not poisoned by the bacteria met with in such enormous numbers in the intestinal canal? The liver had been suggested as a guard. He had made experiments to see if this applied to the bacillus coli. This bacillus was introduced in quantity and they were not found in the blood on the further side of the liver. But the liver itself was found to be crowded with bacilli. It had been shown that both organic and inorganic poisons were excreted by the bile into the intestines and thus prevented from directly entering the general circulation.

Mr. H. G. PLIMMER wished to draw attention to some of the absurd erroneous purposes and misuses to which antitoxins had been put of late, experimenting with them in different diseases, such as aneurysm. In Italy he had come across several cases of natural immunity to malaria. These persons had allowed themselves to be stung by anopheles which were full of the malaria parasite. There was not sufficient explanation of this natural immunity. Any bacillus injected into an animal's veins would disappear in five or 10 minutes. This applied to anthrax or any other organism.

Dr. W. HUNTER referred to the question of the cells which were concerned in the production of antitoxin. Were they the cells of the body as a whole or were they certain specialised cells? Metchnikoff's theory was the one which he favoured and this implied the action of a special kind of cells. In his (Dr. Hunter's) experiments on hæmolysis he had introduced some of the most powerful hæmolytic bodies into the circulation, but if the spleen had been previously excised they produced no hæmolytic symptoms or effects. This went to show that the phenomenon of hæmolysis at any rate was dependent on the action of cells of a special kind, of a mesoblastic type, and found specially in the spleen.

Professor JOHN MCFADYEAN referred to the necessity for a definition of immunity. Texas fever was now very generally attributed to an animal parasite. Beasts born in a certain district were, it was true, immune, but microscopical examination showed that their blood harboured the offending parasite, nd it would seem in a non-attenuated condition, for blood from these animals could produce the disease very severely when injected into a healthy animal. Some of the small ruminants seemed immune to cattle plague, but the blood of these also contained large quantities of the organism.

Professor SIMS WOODHEAD, in replying, remarked that the malaria parasite was found to be present in the blood of children who appeared to be in perfect health and were immune. Immunity and antitoxin production appeared to go on side by side, but he agreed with Dr. Ritchie in believing that they were not identical.

MEDICAL SOCIETY OF LONDON.

The Structure of the Vermiform Appendix and its Homologue in the Lower Animals.

A MEETING of this society was held on March 11th, Mr. JOHN H. MORGAN, the President, being in the chair.

Dr. RICHARD J. A. BERRY (Edinburgh) read a paper entitled the True Cæcal Apex, being an attempt to prove that the vermiform appendix was not a vestigial structure, accompanied by a lantern and microscopic demonstration. He commenced by describing the four different types of cæcum and appendix met with in man and then gave an account of the structure of the cæcum in different members of the animal kingdom—viz., the rabbit, cat, pigeon, skate, frog, goose, fish-eagle, Javan adjutant, fowl, kangaroo, sloth, pig, sheep, mouse, beaver, squirrel, hyæna, dog, marmoset, monkey, ape, and others. In man the vermiform appendix represented the true apex of the cæcum, but as there were but few vertebrates which presented a vermiform appendix the apex of the cæcum (the equivalent of the appendix vermiformis in the lower animals) was examined histologically to see what, if any, analogies and homologies existed between them. The various facts observed were described in some detail. The theories to be based upon them would, he said, be considered on a future occasion. As regards the animals examined, with the exception of the cold-blooded animals, the skate and the frog, the marsupials and sloths (animals which were notoriously difficult of classification), the hedgehog (a hibernating animal without a cæcum), and the Patagonian cavy, the cæca of all were characterised by large amounts of lymphoid tissue. The lymphoid tissue was either specially aggregated together in distinct and definite masses (and more especially was this the case when the cæca were short, as in the cat and the pigeon), or else it was diffused throughout the total length of the cæcum, particularly when this structure was long, as in the domestic fowl, the pig, and the sheep. In all instances the lymphoid tissue tended to be better marked at the cæcal apex, or at all events very near the cæcal apex, as in the mouse and the rat. In the majority of the animals examined the amount of lymphoid tissue contained in the cæcum was largely in excess of that contained in other parts of the large intestine. The line of demarcation between the two was in many instances, such as in the pigeon the rabbit, the cat, the mouse, the rat, the dog, the striped hyæna, &c., most abruptly marked. It had been proved beyond doubt that the characteristic feature of the normal human appendix was lymphoid tissue; and the facts adduced pointed to the conclusion that the histological homologue of the human appendix was to be found in the cæcum of the lower animals. The precise seat of the lymphoid tissue in the cæcum varied somewhat in the different animals. In the pigeon it occupied the entire cæcal wall; in the mouse and the rat the lateral wall of the cæcum near its apex; in the majority of the animals examined it occupied the cæcal apex itself; whilst in the higher vertebrates it was confined to the vermiform appendix. The author came to the following conclusions. 1. Lymphoid tissue was the characteristic feature of the cæcal apex. The vermiform appendix of man was therefore represented in the vertebrate kingdom by a mass of lymphoid tissue situated most frequently at the cæcal apex. 2. As the vertebral scale was ascended this lymphoid tissue tended to be collected together into a specially differentiated portion of the intestinal canal—the vermiform appendix. 3. The vermiform appendix of man was not, therefore, a vestigial structure but a specialised part of the alimentary canal.

The PRESIDENT congratulated Dr. Berry on his paper. The late Professor Rolleston had pointed out that the presence of an appendix was confined to the higher apes and the wombat. He thought that Dr. Berry had established his point.

Mr. C. B. LOCKWOOD wished to express his appreciation of the beautiful specimens exhibited. It was difficult to realise the amount of labour involved. He thought that Dr. Berry's researches had an immediate bearing on clinical medicine and surgery. Dr. Berry had proved his position. The appendix was not a retrograding structure. It continued to grow and develop after birth. He had removed this structure from a child, aged four years, and from a man, aged 70 years, and he had found lymphoid follicles quite as well developed in the latter as in the former. Dr. Berry's specimens also revealed another important practical fact to which he (Mr. Lockwood) wished to direct attention. They demonstrated the existence of a basilar lymph channel which collected the lymph from the lymphoid tissue and communicated with the lymphatics of the mesocolon, the lymphatics of the peritoneum, and elsewhere. It was along this route that septic matter was absorbed from inflamed appendices. Numerous septic organisms had been demonstrated within the appendix under these circumstances, which explained the serious train of symptoms which arose when an inflamed appendix was left, although the mucosa might be entire on examination. There was certainly one type of disease which consisted of lymphangitis of the appendix and another of lymphadenitis of the appendix. He was inclined to locate the lymphoid tissue in the mucosa rather than in the submucosa.

Dr. BERRY, in reply, said that he believed the lymphoid tissue to be localised chiefly in the submucosa, though it sometimes extended to the mucosa also. The diet of the animals was a most important subject, for he felt sure that the lymphoid tissue had a definite relation to the food of an animal. For instance, in the carnivora

the cæcum was short, in the herbivora it was long, while in omnivorous animals the cæcum was intermediate in size, and it was more particularly in the latter that lymphoid tissue was abundant. He had ligatured the appendix in several rabbits and allowed them to live for varying periods of time—two days, four days, eight days, and one month. In every case he found that leucocytes had wandered into the cavity of the appendix.

CLINICAL SOCIETY OF LONDON.

The Epidemic of Enteric Fever among the Troops in South Africa.

A MEETING of this society was held on March 8th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Dr. H. H. TOOTH opened a discussion on the Epidemic of Enteric Fever among the Troops in South Africa. His paper is printed in full on p. 769.

Surgeon-General J. JAMESON (Director-General of the Royal Army Medical Department) expressed his great interest in Dr. Tooth's remarks. Enteric fever had always been a bugbear in South Africa. Instructions were drawn up early in the war and he did not think, looking back, that there had been anything to add to these. Some years ago the post of sanitary officer was abolished from the army. This was perhaps unfortunate, for the principal medical officer of a division, to whom the duties of sanitary officer were allotted, was fully occupied with the care of the sick and other duties. He (Surgeon-General Jameson) had, however, at the very commencement of this war appointed Captain M. L. Hughes, R.A.M.C., in that capacity and had equipped him with a bacteriological and chemical outfit and sent him out by the same ship as Sir Redvers Buller. Unfortunately, this gentleman was killed in action early in the war, and this he regarded as a national misfortune. No doubt there were great difficulties in dealing with these epidemics, and perhaps the greatest of these was the personal equation of the soldier who did not hesitate to drink when he was thirsty without troubling about the sanitary condition of the water. An admirable method of dealing with the latrines was now in vogue. In all standing camps a trough containing milk of lime was provided into which the excreta were received and removed to a distance.

Professor A. E. WRIGHT (Netley) wished to refer to the subject of inoculation but he did not propose to deal with the whole question. He agreed with Dr. Tooth that excessive reaction meant greater need for protection; but it also meant excessive dosage, and he believed that small doses were better. They must assume that a person after an attack of enteric fever became more immune, and their endeavour should be to make the blood of a patient like the blood after an attack of the disease as tested by Widal's reaction. But, unfortunately, this reaction was not always obtainable after an attack of the disease. Special methods were therefore necessary to test the blood in such circumstances and he had made investigations into the bactericidal power of the patient's blood. Remarkable facts had resulted from these experiments. Some patients came out of an attack of enteric fever with the bactericidal power of their blood actually diminished. The liability to relapses was another question of importance. A small bactericidal power generally meant greater tendency to relapse, and the case of a man was referred to who had two inoculations and two definite attacks of the disease in the course of two years. The object should be to make the blood like that of a man who had come out well after an attack of enteric fever, and he believed that this was largely a question of dose in relation to the particular individual to be inoculated. Professor Wright then referred to the various statistics bearing on inoculation. There were not, he said, at present a very great number. First, in the Maidstone epidemic there were 84 warders and attendants at the lunatic asylum who were inoculated and among these there were no cases, whereas of the 120 who were not inoculated four were attacked. In India, in 1898–99, he had inoculated 4502 soldiers under very difficult circumstances, standardising his typhoid vaccine in hotels and trains. He was therefore not satisfied with the quality of the vaccine then employed; nevertheless, only 0·98 per cent. of the inoculated got enteric fever as against 2·5 per cent. among those not inoculated in the same garrison and regiments. In South Africa, among the Ladysmith garrison,[1] out of 1705 persons inoculated only 2 per cent. were attacked, whereas of 10,529 not inoculated 14 per cent. were attacked. The statistics of the officers appeared at first to contradict these figures, for out of 44 inoculated there were two deaths, and among 171 non-inoculated there were only five deaths. But further inquiry showed that there were really no deaths among the former, and 12 deaths among the latter, and consequently the percentages were the same among the officers as among the men. An epidemic in one of the Hussar regiments[2] was referred to in which among 360 inoculated men there only occurred two cases and no deaths, whereas among 160 non-inoculated there were 11 cases and six deaths. Then there were the figures from the Scottish Hospital; in the first section of the hospital staff 61 were doubly inoculated and among them there were no cases; in the second section there were 82 of whom 35 were inoculated and there were no cases, and one not inoculated contracted enteric fever. Out of 46 medical men and orderlies nearly all of whom were inoculated three uninoculated got enteric fever and one died, two had been inoculated only once and of these one got enteric fever and died. A large number of altogether reliable statistics bearing on this question were, however, still wanting. Turning to the question of methods, a person ought certainly to be inoculated twice—once did not give efficient protection. It was best to begin with a small dose and there should be an interval between the injections. This might be followed by a larger and stronger injection. Finally, there should be an interval after the second injection before proceeding to the seat of war. But how was it possible to carry out all these conditions in the presence of a big campaign suddenly thrust upon them like the present? He had therefore been obliged to content himself with one large dose. The inoculations had often been done on board ship on the way to South Africa by various surgeons, some of whom were enthusiasts in the cause of enteric inoculation, but many were not.

Sir DYCE DUCKWORTH congratulated Professor Wright upon his researches, the value of which was undoubtedly very considerable. He thought that the results of typhoid inoculation were most encouraging. In his opinion nurses, medical men, and others liable to be exposed to the infection ought all to be protected in this way. The inoculation should certainly be done twice and all statistics in which only one inoculation was performed should be kept carefully apart from the double inoculations.

Major W. G. MACPHERSON, R.A.M.C., endorsed Dr. Tooth's statement that the Bloemfontein epidemic was a direct result of the Modder river outbreak. All experience went to show that enteric fever attacked fixed camps rather than moving armies. An equivalent of the water-carriage system of drainage had been adopted in some of the American armies in the Cuban campaign. The excreta were received into troughs containing quicklime and water. The American troughs were not emptied into a drain but by means of a pump. Sand-storms and flies propagated enteric fever but were very difficult to combat. Places where flies bred must be destroyed. It was found that food suspended in the neighbourhood of the American latrines became covered with quicklime brought by the flies. Open shallow trenches were to be condemned; they should be 10½ feet deep. The deep trench system was better than the bucket system. Bad teeth, he believed, led to a predisposition to enteric fever. Referring to Professor Wright's statistics of enteric fever in 1899, the case mortality among the inoculated and uninoculated was the same. Reference was made to the case mortality in No. 8 Military Hospital where 2500 cases had been admitted between April and January. The case mortality was 9·2 per cent. In Bloemfontein hospital with 258 cases it had been 8·1 per cent. These figures did not differ very widely from the case mortality in civil hospitals—viz., 7·1 per cent.; and if all cases of simple continued fever had been included the mortality would probably have been identical. In the army it was always the practice to regard cases of "simple continued fever" as distinct from enteric fever and they were never included under that heading.

The discussion was then adjourned.

[1] THE LANCET, July 14th, 1900, p. 95.
[2] THE LANCET, Feb. 9th, 1901, p. 399.

OBSTETRICAL SOCIETY OF LONDON.

Midwifery a Hundred Years Ago.—Exhibition of Specimens.

A MEETING of this society was held at 20, Hanover-square, W., on March 6th, Dr. PETER HORROCKS, the President, being in the chair.

The PRESIDENT delivered his Inaugural Address, taking as his subject the Condition of the Science and Art of Midwifery and Diseases of Women a Hundred Years ago and tracing its progress up to the present time. The classification of labour into (1) natural, (2) laborious, and (3) preternatural by Smellie with the addition of (4) complex added by Denman, was quoted. Natural labour was considered a century ago a most dangerous and difficult procedure, requiring the very highest skill on the part of the accoucheur or midwife. And although the practice of meddlesome midwifery, such as dilating the vaginal orifice or os uteri by means of the fingers, was vigorously condemned, yet it was considered perfectly proper and advisable to prevent rupture of the perineum in a too precipitate labour by forcible resistance to the head when distending the perineum, and if the placenta was not soon delivered by the natural forces traction on the umbilical cord was advised. In preternatural labours two instruments were in use—namely, the vectis or lever, championed by Denman, and the forceps, extolled by Osborn. When craniotomy was needed the head was perforated and the child was left for from 24 to 36 hours in order that putrefaction might supervene and so soften the bones of the head and allow a more easy breaking up by means of the crotchet. Cæsarean section was always fatal to the mother and was rarely, if ever, performed, the patients dying from septic poisoning unless they were carried off by shock or hæmorrhage. Symphysiotomy was condemned as an unjustifiable operation. Post-partum hæmorrhage was very common and was treated by raising the patient up suddenly, in order to make her faint, or by applying cold to the abdomen. Fever was so common after labour that pregnancy itself was defined as a "certain inflammatory disposition of the body," and support was given to this view by the alleged "fizzy" condition of the blood and the "buffy coat" and the "more frequent pulse." Various forms of fever were described, and it was shown that puerperal fever was very common although called by different names. Its treatment was chiefly by bleeding. Convulsions were regarded as due to "morbid irritability," albuminuria being at that time unknown. Abortion and threatened abortion were treated by repeated bleedings. Extra-uterine fœtation was treated on the expectant plan. The bowels were to be kept open, poultices were to be applied, and any abscess forming was to be laid open. Operative procedures were not recommended, as they were nearly always fatal. There was an entire absence of all reference to even ordinary cleanliness on the part of the attendants or of the instruments. The paucity of remarks on diseases of women was pointed out. They were included in books on midwifery and generally occupied about a fifth of the space. Ovarian tumours were treated by tapping when they got so large as to cause distress. Sometimes stimulating drugs were injected into them to try to cure them, or attempts were made to get them to adhere to the abdominal wall. But as a rule they proved fatal sooner or later, for their removal was obviously not even entertained. Cancer of the uterus was treated by palliatives. Fibroids were called "tubercles" and were never interfered with unless they became polypoid. Fallopian tube diseases were practically unknown. The progress made during the century was then pointed out, certain important events being specially mentioned, such as the introduction of chloroform by Simpson, the use of the cephalotribe and the craniotomy forceps, the abandonment of venesection, and the discovery that albuminuria was present in nearly all cases of eclampsia. Semmelweiss's discovery that attendance on post-mortem examinations was highly dangerous for those who were in attendance on lying-in women and Credé's method of delivering the placenta were further instances. The commencement of the antiseptic and aseptic era by Pasteur and Lister was then described and the gradual evolution of this idea by eliminating all pathogenic germs from the attendants' hands, as well as from the patient, the clothing, the skin, the sutures, the needle, the instruments, and the sponges. The improvement in the management of natural labour owing to the knowledge of asepsis was described and it was pointed out that puerperal fever had been eliminated from lying-in hospitals, not by routine douching either of vagina or uterus, which was unnecessary and not devoid of risk, but by a scrupulous observance of the rules of asepsis. Natural labour was described as a physiological act, which considerably over 90 per cent. of women could accomplish safely if left alone. The ease with which Cæsarean section and symphysiotomy could be performed with safety to mother and child was noted, and it was pointed out how nowadays rupture of the uterus was often recovered from by simply packing with antiseptic gauze. This was due probably to the fact that the accoucheur in his previous manipulations had done everything aseptically. The low mortality in operations for extra-uterine fœtation was noted. It was also pointed out that length of incision in ovariotomy and other abdominal sections did not in the least matter nowadays, although it did in the time of Sir Spencer Wells. The great advance in the knowledge of the cause, symptoms, pathology, and treatment of diseases of the Fallopian tubes was shown. In addition to the vast improvements made by the evolution of asepsis it was shown that the transfusion of blood was not only of no benefit but was positively injurious, and yet it was now possible to save patients who were in danger of death from excessive loss of blood by the simple plan of replacing it by an equal amount of fluid, such as water. The improved status of obstetricians was alluded to and a hope was expressed that in the near future great advances might be made, more especially as regards that scourge of mankind and especially of women—namely, cancer—for which at present there was no cure, the knife offering the best chance for escape and that often only for a time.

Dr. ROBERT BOXALL showed a specimen of a Uterus with Large Cystic Fibroid and Subperitoneal Fibroid Nodules, Cystic Ovaries, and a Small Carcinomatous Nodule in the Fimbriated End of the Right Fallopian Tube. This specimen, comprising the greater part of the uterus with its appendages, was removed by operation from an unmarried woman, aged 48 years. When the abdomen was opened the cyst was tapped and after both sets of ovarian vessels had been tied the patient became suddenly collapsed. It was then found that copious hæmorrhage was taking place into the cyst from a venous sinus situated on its inner wall large enough to admit the index finger. This bleeding was controlled temporarily by enlarging the opening into the cyst and turning it inside out. After the operation was completed saline injections were given by the rectum and the patient rallied well.

Dr. ARNOLD W. W. LEA showed a specimen of Sarcoma of the Uterus with Microscopical Sections from a patient, aged 62 years, whose menopause had occurred at the age of 50 years. She had had uterine hæmorrhage and pelvic pain for four months. She died from exhaustion and septic poisoning. Microscopically the growth in the uterus was composed of large round cells with deeply-stained nuclei. The stroma was scanty but contained large blood-vessels. The growth was evidently interstitial in origin, the mucosa being smooth and atrophic.—Dr. C. J. CULLINGWORTH and Mr. ALBAN DORAN discussed the case.—Dr. LEA replied.

Dr. WILLIAM DUNCAN showed a specimen of Multiple Myxomatous Polypi from the Cervix Uteri. The patient was a widow, aged 57 years, who was admitted into the Middlesex Hospital on May 16th, 1900. The growth was composed of between 20 and 30 polypi of various sizes attached to a single base, the largest of which was of the size of a walnut, the others being from one inch to one and a half inches long and one-third of an inch wide. The patient made an uninterrupted recovery.

Dr. DUNCAN also showed two specimens of Uterine Fibroids removed from his last two cases of 100 consecutive intra-peritoneal hysterectomies for fibroids. His mortality was four, his last 53 operations having had no mortality. He attributed his good results to his plan of injecting three minims of liquor strychniæ thrice daily for several days before and after operation, thus diminishing the danger from heart failure and shock, which were the great dangers after hysterectomy.—Dr. AUST LAWRENCE made some remarks.

Dr. W. F. VICTOR BONNEY showed a specimen of Uterus Bicornis Unicollis which was removed from a Hydrocephalic Fœtus presenting besides a double Hare Lip and Absence of the Hard and Soft Palates. There was also a deficiency of

the septum ventriculorum and the aorta came from the right ventricle. The uterus consisted of two corpora terminating in a single cervix. The corpora were distinct at their upper parts, but united below, where their cavities were separated as low as the internal os by a median septum. The recto-uterine pouch of peritoneum was single. The ovaries and tubes were perfect, each coming off from its corresponding cornu. The vagina was single, but presented a well-marked median ridge on its anterior aspect.

HARVEIAN SOCIETY OF LONDON.

Gonorrhœal Iritis.—Exhibition of Cases and Specimens

A MEETING of this society was held on March 7th, Dr. D. B. LEES, the President, being in the chair.

Mr. JOHN GRIFFITH read a paper on Gonorrhœal Iritis. He pointed out that gonorrhœa was a common cause of iritis and was, in fact, a more common cause than syphilis. Not only was it a complication, it was also a sequel of gonorrhœa. Cases occurring at a remote period after the attack were overlooked as regards their causation and being often recurrent were regarded as rheumatic. It was his experience that recurrent iritis was due to gonorrhœa, both this and the rheumatic troubles being subsequent to the attacks of the urethritis. Some instances of recurrent iritis occurred without any history of any rheumatic affection. He disagreed with the view of Mr. Treacher Collins that "syphilis is by far the most frequent constitutional disease to give rise to iritis." Syphilitic iritis was said not to recur and in the recurrent cases there was probably a past attack of gonorrhœa to which the recurrence was due. In his experience cases of recurrent iritis in syphilitic subjects had been associated with rheumatism and a history of urethritis. He gave details of illustrative cases, one of which was that of iritis in one eye, the result of gonorrhœal ophthalmia in the other, in a patient who had never had urethritis. In conclusion, he expressed the view that gonorrhœa was as constitutional a disease as syphilis, that iritis was more often caused by gonorrhœa than by syphilis, and that it often occurred at a period remote from the date of inoculation.—Dr. SYDNEY STEPHENSON said that it was an undoubted fact that iritis or cyclitis might occur many years after the primary lesion of constitutional syphilis. He had once observed an interval of 19 years. Iritis might also be met with long after an attack of malarial fever. From analogy, therefore, he saw no *primâ facie* reason for disbelieving in Mr. Griffith's theory of a post-gonorrhœal iritis.

Dr. WILFRED HARRIS showed a case of Fifth Nerve Paralysis in a woman, 43 years of age, who three years before had fallen, striking the right side of her forehead severely, and had lost consciousness for a few moments. Four and a half months later severe pain began in the forehead at the site of the blow and spread over the right cheek, for which she had most of her teeth extracted on the right side, but derived no benefit. When first seen, two and a half years ago, there was nothing found on examination but some slight numbness of the right side of the face and she also complained of diplopia. Soon after this she was ill for six weeks, suffering from recurrent convulsions, five and six a day, with vomiting and loss of consciousness. She was next seen in January last, when almost complete paralysis of the right fifth nerve was found with the usual distribution of anæsthesia on the scalp, face, and inside of the cheek as far back as the anterior pillar of the fauces and the junction of the hard and soft palates. There was complete loss of taste on the anterior portion of the tongue, but on the back of the tongue on the right side she could just perceive bitter flavours and the electrical sensation to galvanism, and this had markedly improved under treatment. Motor paralysis also was marked, but slight contraction of the right masseter could be felt. She complained also of some loss of sight in the right eye, both discs being slightly pale, though vision was normal in the left eye. The right pupil was slightly contracted and scarcely reacted to light, giving only the smallest movement when exposed to bright diffused daylight, though the left pupil reacted perfectly both directly and consensually. There was no ptosis and it seemed a matter of doubt whether the condition was one of sympathetic paralysis of the pupil or whether it was a case of uni-ocular Argyll-Robertson pupil. Except for the very doubtful optic atrophy there was no other sign of tabes dorsalis and there was no history suggestive of syphilis, as would be expected if Argyll-Robertson pupil existed. The severe trigeminal pain still persisted and Dr. Harris was of opinion that the condition was due to a lesion of the Gasserian ganglion, possibly pachymeningitis, the result of the fall on the forehead, which might have caused a slight fracture of the base. She was being treated electrically four times a week with strong constant current to the forehead and the back of the ear, which always relieved the pain for several hours or even a day or two. If permanent improvement did not result the question of the advisability of removal of the Gasserian ganglion might have to be considered.—Mr. JACKSON CLARKE said that fracture of the base of the skull frequently passed near the apex of the petrous bone and when this was the case the Gasserian ganglion might subsequently become involved in inflammatory tissue. Since Dr. Harris's patient was improving he would not advise operation at present. He (Mr. Clarke) had successfully excised the ganglion by the extra-cranial route in a case of severe tic-douloureux. This distressing affection justified the operation, serious as it was. If he should be called upon to remove the ganglion again he would do so by the intra-cranial route.

Dr. HARRIS also showed a case of Syringomyelia in a woman, aged 42 years, who had suffered from infantile paralysis when three years old, affecting the left arm and leg, the recent wasting and pain due to the syringomyelia being limited to the left arm, while partial left hemianæsthesia both to touch and pain had developed under observation, as also similar sensory loss on the right hand and lower forearm.

Dr. DOUGLAS DREW exhibited two specimens of Carcinoma of the Rectum, one of which was associated with intussusception, which he had successfully removed. The first specimen, which was preserved in the museum of the Royal College of Surgeons of England, showed a nodular growth surrounding five-sixths of the circumference of the rectum and forming the apex of the invagination which had been removed with it. The patient from whom the specimen was removed had a month previously been operated upon for cystic disease of both ovaries. The growth and intussusception were not discovered until after the operation, when great difficulty was experienced in relieving the bowels. The growth reached to within two and a half inches of the anus and the invaginated portion measured about three inches in length. The mass was removed by dividing the anus and rectal wall posteriorly as far as the coccyx, which allowed the growth to be drawn outside. The layers of the invaginated portion were sutured together with silkworm-gut, which transfixed them, and the mass was cut away with scissors by degrees as the sutures were tied. The patient made an uneventful recovery and when seen six months after the operation was in good health. Dr. Drew attributed the successful result to the method of removal employed, which insured the security of all vessels (some of which were of unusual size) before their division—a point of vital importance owing to the enfeebled condition of the patient. Attention was directed to the extreme rarity of the condition, the tendency of malignant disease being to become fixed to surrounding structures and to thus render the occurrence of invagination impossible. On the other hand, invagination was not uncommonly associated with pedunculated growths of the bowel, the explanation being that the tumour dragged on the wall of the bowel and the peristaltic movement gripped it and drove it onwards. The other specimen exhibited by Dr. Drew showed the lower five inches of the rectum with the anus and posterior vaginal wall which had been removed by the trans-sacral route from a woman aged 30 years. Dr. Drew called attention to the advantage of performing a preliminary colotomy in those cases in which it was necessary to remove the anus.

Mr. JACKSON CLARKE showed a man, aged 58 years, from whom he had removed the Rectum for Cancer by the Trans-sacral Method nearly two years ago. The patient was now in good health and the bowel and the sphincter had their normal functions. The first time that he (Mr. Clarke) had done this operation, now some five years ago, he had done a preliminary colotomy which he repaired by a plastic operation before the patient left the hospital. This patient he traced for three years and there had been no return of the disease. Latterly he had dispensed with the preliminary operation.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Specimens.—Stenosis of the Small Intestine as a Sequel of Strangulated Hernia.—Myasthenia Gravis.—Method of Determining the Influence of Drugs upon the Liver.

A MEETING of this society was held on March 6th, Mr. ALEXANDER MILLER, the President, being in the chair.

Dr. ALEXIS THOMSON showed about a pint of Loose Bodies (hyaline cartilage) from the knee of a woman, aged 36 years. She had suffered more or less for 15 years from the joint affection, but it was only during the last six months that she was crippled and unable to walk.

Dr. DAWSON TURNER exhibited a Roentgen photograph of Renal Calculi from a patient operated upon by Professor Annandale. In order to get a successful photograph of such a case the calculi must be dense and large; there must be a short exposure, otherwise the plate becomes fogged (the exposure was two minutes in this case); the bowels must be thoroughly emptied and the movements of the abdominal walls must be limited.

Dr. ALEXANDER BRUCE (for Dr. AFFLECK) exhibited a greatly Dilated Heart from a woman, aged 69 years, who had been in the Incurable Hospital for seven years. She had been tapped 188 times and 53,494 ounces of fluid had been removed from the abdomen, or a weight equal to one and a half tons. There had never been any albuminuria or any dropsy other than ascites. The liver was pulsating and enlarged. The largest amount of fluid removed at once was 414 ounces.

Dr. CHALMERS WATSON showed a series of microscopic preparations illustrating the Primary Importance of Vascular Disease in the Etiology of Chronic Nervous Affections (Comparative).

Dr. ALEXIS THOMSON read a paper on Stenosis of the Small Intestine as a Sequel of Strangulated Hernia. He stated that almost any damage to the intestine terminated in recovery except gangrene of the bowel. Owing to the mechanical constriction at the neck of the hernial sac the bowel became grooved or furrowed. This took place commonly at both ends of the loop of intestine in the sac. This furrow might be only on one side or it might be all round the bowel. As a rule when the bowel was liberated and stroked these furrows disappeared. Sometimes, however, they persisted and if so the patient was not relieved of the obstruction and might die from it. Again, these furrows might afterwards become the site of fibrous stricture, rendering the patient the subject of chronic intestinal obstruction. Two such cases were described. In the first case the patient was a boy, aged two years, who had symptoms of obstruction on the left side together with an undescended testicle. Dr. Stirling of Perth performed herniotomy and noted the presence of two well-marked grooves. Three days after the operation the symptoms still persisted though the abdomen was not distended. Dr. Thomson, who saw the boy, then decided that the obstruction was still present. The abdomen was opened and the bowel was found lying close to the incision with well-marked grooves on it. The bowel was greatly distended above this furrow and collapsed below it. The site of the furrows was at the highest part of the jejunum. The bowel was pulled out of the wound and an artificial anus was made. After this, however, the child suffered from malnutrition; when porridge was given it almost immediately escaped from the artificial anus. Another operation was performed and the ends of the bowel were joined, and the child made a perfect recovery. Nine inches of the bowel were resected. A microscopic examination of the bowel at the seat of constriction showed that it was the seat of leucocytosis and escape of red corpuscles, and was beyond the chance of recovery. The second case was that of a Left Inguinal Hernia strangulated for three days. There were two well-marked grooves and the bowel was considered viable, though some peritonitis was present. After the operation the patient remained well for three weeks, when symptoms of chronic obstruction ensued. In 12 weeks he had become greatly emaciated and the abdomen enormously distended, exhibiting the ladder pattern. The diagnosis was obstruction due to grooving. In the first instance an artificial anus was made and 16 days later the bowel was resected, being greatly dilated above the seat of constriction. The microscope showed that the mucosa had disappeared at the seat of stricture.—Dr. F. M. CAIRD said that the condition was exceedingly rare. One case he recalled, however, was in a strangulated femoral hernia. Six months after operation the patient died and it was found that the septum which had formed was very strong and the mucosa greatly destroyed. The death of the bowel took place from within outwards.

Dr. EDWIN BRAMWELL read a paper on Myasthenia Gravis. He considered that the disease was one with which every practitioner should be acquainted, since it was often mistaken for hysteria, since it was often fatal, and since, in some cases at least, a fatal issue could probably be averted by appropriate treatment. He had examined nine cases of the disease. He described the case of an unmarried female, aged 23 years, who had previously enjoyed good health. Ten weeks before he saw her, without apparent exciting cause, she had gradually developed difficulty in speaking, swallowing, and chewing, weakness of the ocular muscles, of the palate, and of the neck and arms. In the morning she was usually free from symptoms, but as the day went on weakness in these various muscles developed. If she continued to use any of the above-mentioned muscles a state of temporary paresis ensued, associated with a feeling of fatigue. The myasthenic reaction was demonstrated in the right biceps muscle. The muscular weakness was unaccompanied by atrophy; the deep reflexes were brisk; the plantar reflex was of the flexor type; the sphincters were unaffected, and there was no objective disturbance of sensation and no affection of the special senses. The absence of any weakness in the legs and of ptosis was an unusual feature of the case. Dr. Bramwell considered the term "myasthenic state" as suitable to denote the peculiar condition of the muscles met with in this disease, whereby they become readily fatigued by voluntary effort. The seat of the lesion was most probably in the motor neurons, and clinical evidence seemed to point to the lower neuron as being at least the chief seat of the affection. Although Déjerine and Thomas had recently described a case in which definite post-mortem findings were present it remained to be seen whether future observations would show that these changes were constant. Attention should be directed to the following points in making a diagnosis: (1) the presence of muscular weakness which was often slight in degree and was unassociated with atrophy; (2) the facility with which the muscles became exhausted both by voluntary effort (myasthenic state) and by faradaism (myasthenic reaction); and (3) the absence of sensory symptoms apart from the fatigue of exhaustion, of sphincter trouble, and of mental disturbance. The prognosis was a matter of great uncertainty. Most cases were characterised by temporary improvements and relapses. Of 60 cases collected by Dr. Harry Campbell and himself 23 had ended fatally. In the majority of fatal cases death had been due to an attack of dyspnœa. Since muscular exertion and mental excitement increased the severity of the symptoms, they must both so far as possible be avoided. All solid food should be minced in order to spare the muscles of mastication and to avoid, so far as possible, the risk of choking. Dr. Bramwell was of opinion that in a severe case, where there was great muscular weakness and the patient's life was in danger, inhalations of oxygen and transfusion with saline fluid might prove of value.

Dr. NOEL PATON and Dr. EASON communicated a paper on a Method of Determining the Influence of Drugs upon the Liver. It had for long been understood that certain drugs diminished the activity of the chemical changes in the body. So far, however, no attempt had been made to determine which tissues or organs were specially affected. It appeared to Dr. Paton and Dr. Eason that some indication of the structures acted upon and of the degree of interference with their functions might be gained by a study of the extent to which the waste nitrogen of the body was elaborated into urea, since it was in the liver that this formation of urea was chiefly carried on. The experiments were made upon dogs which were put on a fixed diet until nitrogenous equilibrium was reached. The dogs were subjected to the agent and the urine was carefully collected and examined. The results were as follows: (1) morphine had no action in the building up of nitrogen into urea; (2) sulphonal had most marked effects, diminishing the elaboration of nitrogen into urea; (3) alcohol had a marked effect on the liver, increasing the uric acid; it reduced the average percentage of nitrogen excreted as urea from 79·5 to 73·0; and (4) coal

gas had a great effect in diminishing the processes of oxidation in the body due to the carbon monoxide present: it diminished the proportion of nitrogen excreted as urea and of sulphur in the oxidised form but did not alter the proportion of phosphorus to nitrogen.

BRITISH ORTHOPÆDIC SOCIETY.—The annual general meeting of this society was held at the City Orthopædic Hospital, Hatton-garden, E.C., on Feb. 16th, Mr. Noble Smith being in the chair.—The reports of the honorary secretaries and treasurers showed that the society was in a sound condition. The three years' term of the town honorary secretary (Mr. Muirhead Little) having expired a hearty vote of thanks for his very valuable services was passed unanimously. Mr. Chisholm Williams and Dr. A. F. Blagg (Bristol) were elected to act as the honorary secretaries. The following members were elected to the council: Mr. W. Armstrong, Mr. W. E. Bennett, Mr. Jackson Clarke, Dr. Percy Lewis, Mr. G. P. Newbolt, Mr. John Poland, Mr. H. A. Reeves, and Mr. Noble Smith. Mr. C. B. Keetley was re-elected treasurer.—The ordinary meeting was then held.—Mr. Muirhead Little showed a case of Kyphosis with probably Rheumatic Complications. The patient, a young man, had a slight slip from a horizontal bar whilst practising gymnastics and ever since then had had a grating noise like loud crepitations whenever the right scapula was moved. The noise could be heard at a distance of several feet when the patient was stripped. There was neither pain nor impairment of either strength or motion.—Mr. Noble Smith, Mr. Jackson Clarke, and Mr. John Ewens commented on the case.—Mr. Muirhead Little also showed a case of Injury to the Upper Epiphysis of the Humerus in a boy who had been shown before the society on a previous occasion. With a view of remedying the deformity he had operated by dividing the humerus below the insertion of the deltoid and rotating it out about 30°. The hand and arm which had been quite useless could now be used fairly freely and the patient could rotate his arm with more or less ease.—Mr. Noble Smith read notes of a case of Separation of the Epiphyseal Head of the Femur in a girl, aged 17 years, who consulted him in 1885, the case being one of the earliest recorded of this particular injury.—Mr. John Poland opened a discussion on the Results of Injuries and Diseases of the Epiphyses and their Treatment.—Mr. Jackson Clarke, Mr. Muirhead Little, Mr. Ewens, and Mr. Chisholm Williams took part in the discussion.

MANCHESTER THERAPEUTICAL SOCIETY.—At a meeting of this society held on Feb. 27th Dr. J. Dreschfeld, the President, opened a discussion on the Use of Urotropine in Urinary Affections. He had obtained the most satisfactory results from the use of this drug in the pyuria of cystitis. It answered well in cystitis due to hypertrophy of the prostate, gonorrhœa, gout, after typhoid fever, and in arsenical poisoning. It was also useful in pyelitis, four of six of such cases doing well with urotropine. One of these cases was undoubtedly tuberculous and two were calculous in origin. The two unfavourable results were in tuberculous cases. As a solvent for uric acid its value was doubtful, though good resulted in two cases after its use which had resisted other treatment. In one case of gouty sciatica the drug seemed to give much relief. The mode of administration was to give the drug in from 10- to 15-grain doses three times a day in powder form placed on the tongue and followed by a drink of water. This dose had been continued for weeks in some cases. Large doses sometimes caused tenesmus and pain in the bladder, and some patients felt sick and depressed when taking it. Bismuth with the powder tended to prevent the nausea.—Dr. Dixon Mann had used the drug with beneficial results in anomalous cases of cystitis with no definite cause. He found it quite useless in a case of idiopathic bacteriuria.—Mr. W. P. Montgomery confirmed some of the above results and thought the drug most useful in cystitis due to enlargement of the prostate, especially when the urine was alkaline.—Dr. R. T. Williamson and Dr. R. B. Wild also spoke favourably of the drug, the former having had good results with it in a case of compression myelitis with paralysis of the bladder.—Dr. Wild read a paper summarising the Effects Produced by Injections of "Coley's Fluid" in eight cases of Malignant Disease, in no one of which was any permanent benefit produced.

MIDLAND MEDICAL SOCIETY.—The sixth ordinary meeting of this society was held on Feb. 27th at the Birmingham Medical Institute, Mr. Jordan Lloyd, the President, being in the chair.—Mr. L. P. Gamgee showed a man, aged 32 years, who, in October, 1900, suffered from Acute Pneumonia. During his illness the right leg and afterwards the left leg became greatly swollen and œdematous. He now had œdema of both legs with very marked dilatation of the superficial epigastric and circumflex iliac veins on the right side, and of the superficial circumflex iliac veins on the left side, the left superficial epigastric vein being thrombosed. The condition was apparently due to double femoral thrombosis.—Dr. J. W. Russell showed a man, aged 26 years, who had suffered from "Blood-poisoning" in June, 1900. No definite information could be obtained respecting this attack except that it was accompanied by pain and tenderness over the right femoral vein. Four weeks later similar symptoms appeared on the opposite side. There were now a solid œdema of both legs and dilatation of the superficial epigastric veins on both sides, most marked on the right. The right superficial circumflex iliac vein was also dilated.—Mr. John W. Taylor showed a specimen of Calcified Fibroma of the Ovary removed from a young married woman, aged 26 years. Mr. Taylor commented on the rarity of fibroid tumour of the ovary and on the extreme rarity of one which had undergone such calcareous or (possibly) bony transformation. The specimen was as hard as stone and undoubtedly caused occasional contusions of bowel on unguarded movements of the patient.—Dr. A. Douglas Heath read a paper on Dermatitis from Common Irritants, and Dr. T. Sydney Short read notes on three cases of Gastralgia.

HUNTERIAN SOCIETY.—The second annual Hunterian Society's lecture was delivered by Sir William Mitchell Banks on Feb. 27th upon the Neglect of the Actual Cautery, Dr. Dundas Grant, the President, being in the chair. The lecturer said it was difficult to explain how so valuable a remedy as the actual cautery should have fallen almost entirely out of use; he could only ascribe the fact to "fashion." The operation was painless, being done under chloroform, and the after-pain was easily controlled. Failures in the use of this remedy were often due to a want of thoroughness in applying it. The iron, which should be at white heat, required a longer application than was usually believed to produce a good result. The skin should be almost completely destroyed. The cases most suitable for this treatment were those which were accompanied by deep-seated pain, such as periostitis and ulcerative arthritis; pruritus ani also in its most obstinate form yielded to this remedy. Cases were described in which immediate relief had been effected after long and continuous suffering. The cases of pruritis ani had presented patches of skin resembling damp wash-leather—a characteristic appearance of the chronic form of this disease.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on March 8th, Mr. W. C Worley, the President, being in the chair.—Dr. A. Haig read a paper on the Causation, Prevention, and Treatment of Anæmia. He defined anæmia as defective metabolism due to a defective circulation, which in turn was an outcome of uric acid excess in the circulation. He pointed out the slow "capillary reflux" in such defective circulations in a diabetic man and connected this state with Raynaud's disease—a more aggravated condition of the same circulatory defect. He also pointed out that the alternating chlorosis and rheumatism of girls was readily explicable on the theory of the alternate taking up and throwing out from the circulation into the joints of uric acid—the blood breaking up as a consequence of the uric acid in the circulation, producing chlorotic anæmia. He said that he more often treated anæmia by mercury than iron and always by advising the discontinuance of a uric acid diet, in which the avoidance of tea, coffee, and cocoa was as essential as meat and beef-tea. He showed his card for the ready estimation of the blood decimal and asserted that only with a diet free from uric acid was the best blood obtainable.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on March 7th.—Mr. W. Stanwell read a paper on Diabetes. In discussing the etiology of the disease he gave an account of the physiological researches on carbohydrate metabolism. An interesting point was that in one case careful observations had shown that on a diet with potatoes the patient had less sugar in the urine than on the same diet without potatoes. A demonstration was given of various useful tests for sugar in urine, including, besides Fehling's and other well-known reactions, those with

methyl blue and safranin. The precipitation of glucose in urine by benzoyl chloride was shown and the fact of all the sugar being contained in the precipitate and none in the filtrate was demonstrated. The phenyl-hydrazin test was performed and the crystals were shown microscopically. The nitro-prusside of sodium test for acetone was also shown. For quantitative determination in ordinary practice the fermentation method was recommended.—Dr. W. J. Kerr, Dr. J. A. Ashcroft, Mr. J. Chadwick, and Dr. J. Melvin discussed the paper.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held at the Royal Kent Dispensary, Greenwich-road, on March 1st, Dr. Septimus Sunderland, the President, being in the chair.—Mr. Chisholm Williams and Dr. Walls showed a case of Ventral Hernia.—Dr. James Donelan read notes of a fatal case of Exophthalmic Goitre and showed a specimen.—Dr. F. S. Toogood showed cases of Congenital Heart Disease and Infantile Scurvy.—Dr. Dockrell exhibited some "Paratuberculides" with their microscopic conditions.—Mr. Chisholm Williams read notes on, and showed specimens of, Periosteal Sarcoma of the Tibia and Melanotic Sarcoma of the Little Toe.—Dr. Henry showed a case of Retinitis Pigmentosa with Nystagmus.—The cases were discussed by Dr. Dockrell, Dr. Scholefield, Mr. R. V. Donnellan, Dr. Toogood, Mr. J. P. Purvis, Mr. C. C. Weeks, the President, Mr. A. E. Joscelyne, and others.

Reviews and Notices of Books.

A Text-book of the Practice of Medicine. By JAMES M. ANDERS, M.D., Ph.D., LL.D., Professor of the Practice of Medicine in the Medico-Chirurgical College, Philadelphia. Illustrated. Fourth edition. London and Philadelphia: W. B. Saunders and Co. Pp. 1292. Price 24*s.*

THE third edition of this work appeared in September, 1899, and that another edition should be so quickly called for is ample evidence of the favour with which the work has been received by practitioners and students. The book is probably better known in America than in England, and we may therefore say that it is intended to introduce the student to the present state of our knowledge of the practice of medicine in general and of the diagnosis, differential diagnosis, and treatment of disease in particular.

The differential diagnosis has in many instances been tabulated. This is a most convenient plan for reference. The busy practitioner has no time to turn over several volumes to find the main diagnostic points in diseases closely simulating one another, but by means of such tables as are here given the symptoms, physical signs, &c., that are to be mainly relied upon in coming to a conclusion can quickly be comprehended. These tables are accurately drawn out and form a valuable and distinctive feature of the work.

The present edition has been fully brought up to date and the text has been carefully revised throughout, and considerable new matter has been added with a view to enhance the general usefulness of the work. The section on Diseases of the Digestive System in particular has received numerous additions. Not only have several of the sections been re-written, but new ones on some of the rarer or more fully recognised conditions have been added, such as those on Sprue, Ileo-colitis in Children, and Acute Cholecystitis. The remarks on Sprue are very brief, and we scarcely think that any practitioner would be able to recognise a case from the description here given. The section on Acute Infectious Cholecystitis is more full. Dr. Anders recognises three pathological varieties—catarrhal, suppurative, and phlegmonous; the bacteriology is dismissed in two lines, but the symptoms, and more particularly the differential diagnosis, are well described.

The part of the work devoted to a consideration of Diseases of the Blood in the Ductless Glands is complete and contains a summary of the many advances recently made in our knowledge of this subject. Dr. Anders divides the subject of anæmia into Primary or Essential Anæmia and the Secondary Anæmias, including under the latter "leukocytosis," "leukocythæmia," "pseudo-leukæmia," "splenic anæmia," and "anæmia infantum pseudo-leukæmia," designating by the last-named a form of anæmia first described by von Jaksch which occurs in childhood and which has certain similarities to leukæmia but is without the tendency to a fatal end.

The book as a whole may be described as very practical; theoretical questions are but little touched upon. We believe, therefore, that it will be found more useful to practitioners than to students who are preparing for their examinations.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By EDWARD JACKSON, A.M., M.D., Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. With 178 Illustrations and Two Coloured Plates. London and Philadelphia: W. B. Saunders and Co. 1901. Pp. 604.

PROFESSOR JACKSON, the author of this work, is well known both in the United States and in this country as an ophthalmologist of repute who has studied with care, and written well upon, the dioptrics of the eye, and as he has his own clinic in Philadelphia and his own class to instruct it is not surprising that he should find it necessary to publish a treatise which constitutes an authoritative exposition of the views and opinions that he has been led to form and of the methods of treatment, operative or otherwise, on which he is disposed to rely. The general arrangement of the work offers no novelty and differs but little from the ordinary manuals. The examination of the patient both by direct and oblique illumination, by means of the ophthalmoscope, and by means of lenses determining his refraction; disorders of the ocular movements; diseases of the several tunics and humours; glaucoma; diseases of the lids, lacrymal apparatus, and orbit; injuries of the eye; topical remedies; operations and the ocular symptoms connected with general disease—are the titles of the several chapters, and embrace all the forms of eye disease that are likely to fall under the observation of the general practitioner. Professor Jackson is catholic in his pathology and treatment of ophthalmic disease. He gives mercury in iritis; admits two forms of sympathetic disease—sympathetic inflammation and sympathetic irritation; and acknowledges that up to the present time the etiology of the sympathising eye, or the channel through which the exciting eye acts upon the uninjured one, is unknown. The different theories that have been advanced to explain this affection are briefly but clearly given. He practises iridectomy for cases of increased tension in preference to sclerotomy or Hancock's operation. He uses a knife of his own device for the section of the cornea in the extraction of cataract. It is a narrow Beers knife, with the basal angle much rounded, and no doubt acts well. In this operation it is not so much the form of the knife as the skill with which the operator manipulates it that is of importance, and those who have lived long have seen excellent results with many different forms of instrument. Professor Jackson's incision is made well within the periphery of the cornea and he omits the iridectomy.

The principles of the direct method of examination with the ophthalmoscope for the measurement of refraction are clearly given. The author justly observes that this method cannot be relied upon for the accurate prescription of glasses. The subject of skiascopy is treated of in several parts of the book. There is a short section devoted to it, but it is also considered under the head of astigmatism; he concludes his remarks on this point by recommending to the student the stenopæic slit or the parallel lines with spherical lenses if he

cannot use skiascopy or has no ophthalmometer, the usual condition, we imagine, of the student. Some examples of the combinations of glasses required for the correction of varying degrees of astigmatism might with advantage have been given. Professor Jackson commends the use of glasses at as early an age as three in cases where a tendency to squint is observed. In speaking of myopia he attributes that affection to two circumstances, first to softening of the scleral coat by congestion and secondly to pressure of the muscles around the eyes in fixing near objects. Surely other potent causes are insufficient light and close work on near objects. He speaks with approval of the removal of the lens in cases of high myopia. We doubt whether it will come into very general use. A useful bibliography terminates each chapter. The coloured illustrations are poor and rough, contrasting badly with the beautiful plates issued by the Germans, and showing that the Americans, like ourselves, are far behind that ingenious nation in chromo-lithography. The work has been written with care, has but few typographical errors, and may be considered to represent fairly in moderate compass the present state of ophthalmology.

Progressive Medicine: A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., assisted by CHARLES ADAMS HOLDER, M.D. Vol. III. September, 1900. London: Henry Kimpton. 1900. Pp. 408. Price 12*s.* 6*d.*

THE general scope of this work is too well known to need any introductory remarks from us. The present volume is concerned with diseases of the thorax and its viscera, including the heart, lungs, and blood-vessels, diseases of the skin, diseases of the nervous system, and obstetrics. The first section—that on Diseases of the Thorax and its Viscera—is by Dr. William Ewart who gives an excellent and valuable *résumé* of the more recent work which has been published concerning these diseases. He refers to the "serum treatment" of pneumonia, which, although the rational remedy, has hitherto fallen far short of our requirements, but of which some observers, more particularly Dr. Washbourn, speak hopefully but with considerable reservation. The contributions on Pulmonary Tuberculosis to which Dr. Ewart refers are very numerous. Amongst other observations he refers to those of Huguenin, who maintains that the clinical distance between the cases of virulent type and that (fortunately more frequent) of short, local, non-infective, often latent and generally curable affections is to be attributed to the presence or absence of life in the infecting bacilli. In infections with dead bacilli a spread of the disease is impossible, as dead bacilli do not multiply, and no infections of glands and secondary infection with cocci are observed. Bacilli may be found in the sputum for weeks, but inoculation proves them to be dead. These observations are interesting, and if the facts are corroborated by other observers should prove of considerable value from a point of view of prognosis. The surgical treatment of pulmonary tuberculosis is also referred to, although but little, if any, advance has been made in this direction.

In considering the treatment of aneurysm Dr. Ewart comments on the hypodermic injection of gelatin. The various published reports are altogether favourable, although it must be constantly borne in mind that this treatment is attended by risk and that the fatal accidents reported may occur again in spite of all precautions. The internal administration of gelatin has also been tried with encouraging results. No harm could arise from adding gelatin to the scanty diet of patients undergoing the simple rest cure, though, as Dr. Ewart remarks, we should not expect much result if the patient was taking at the same time iodide of potassium which rather tends to keep the blood fluid.

Much work has recently been done in the examination of the blood. The value of the observation of leucocytosis as an indication of the formation of inflammatory affections, such as appendicitis, is gradually being recognised and receives due notice in this volume.

We would also draw attention to the paragraphs on the use and abuse of digitalis, a subject upon which some confusion still exists. Dr. Ewart here states the indications for the administration of the drug or the reverse very minutely, and his remarks are well worthy of perusal.

That part of the volume devoted to "Diseases of the Skin" has been edited by Dr. Henry W. Stelwagon. His observations on X-ray Dermatitis and Eczema are particularly noteworthy.

Dr. William G. Spiller is responsible for the section on Diseases of the Nervous System. He has paid especial attention to clinical neurology, and papers of interest only to the anatomist or pathologist have received but slight recognition. We commend this course, for in a publication of this nature those matters which are of service to the practitioner should be especially selected. The paragraphs devoted to Tumours of the Brain are very interesting and we endorse Dr. Spiller's opinion when he says: "If men would sacrifice their vanity to the extent of publishing their mistaken diagnoses in important cases we should probably learn more than we do from cases in which a very careful diagnosis is made *after* the necropsy has been performed, because the mistaken diagnoses are often the instructive ones." We all of us learn by our errors but are chary of imparting that means of our knowledge to others.

The subject of Aphasia is a difficult one and Dr. Spiller has carefully recorded the principal advances which have been made in the investigation of this symptom.

"Babinski's reflex" would appear to be a valuable sign in distinguishing between certain organic and functional disorders, and it is to be hoped that the value of this sign will be proved by further observation. In organic lesions of the cord Babinski found that the normal flexion of the toes in the plantar reflex is replaced by extension, and the phenomenon has been observed in other conditions, but never in "hysterical" affections.

The work which has been done in Obstetrics is commented on by Dr. R. C. Norris and the abstracts have been selected with the same care as in the preceding sections. We note some valuable remarks on the Heart in Pregnancy, a matter which frequently gives rise to much anxiety on the part of practitioners and the patients' friends. The danger of heart disease in pregnancy has probably been usually over-rated, but at the same time the question as to whether a woman suffering from valvular disease should be advised to marry or not is an extremely difficult one and each case must be decided individually.

We consider this publication a most useful one and to those practitioners who desire information on the subjects treated therein we can certainly recommend it.

Studies from the Department of Pathology of the College of Physicians and Surgeons, Columbia University, N.Y. Vol. VII., for the Collegiate Year 1899–1900. Reprints.

THE Department of Pathology, the director, Dr. Mitchell Prudden, and the authors of the papers collected in this volume, are alike to be congratulated on the amount, variety, and value of the work published. The book contains a series of 14 papers dealing for the most part with experimental pathology and all marked by great care and completeness. The papers are reprints from the current medical journals in which they originally appeared. This method of publication is adopted because, in the opinion of the director, "the aims of such varied studies are more certainly accomplished" thus than by departmental or university

publication. This plan leads to a certain loss of typographic homogeneity, and if any adverse criticism of the work may be made it is that there appears to be a similar lack of homogeneity in the subject matter of the papers, there being no appearance of any leading idea round which the work of the department is grouped.

Dr. E. Hodenpyl treats in the first paper of Miliary Tuberculosis of the Pleura without other tuberculous lesions of the lung, and calls attention to the fact noted by Professor Delépine and others that infection may take place in a direction opposed to the lymph and blood streams. Practical hygiene is represented by a paper by E. W. Firth on the Relation between the Micro-organisms of the Air and Various Methods of Cleaning adopted in Public and Other Buildings. The observations were made by means of a simple Petri sand filter attached to a small portable apparatus devised by Dr. Prudden and showed that dry-dusting doubles the number of organisms present in the air and that these do not settle again for some long time, dependent on ventilation and other factors. There is a short, able, practical experimental study of secondary cataract by Dr. W. H. Bates, designed to discover the cause and to avoid the occurrence of this complication. He concludes that secondary cataract is not caused by a thickening of the posterior capsule but by the development of connective tissue replacing fibrin formed in the anterior chamber by the coagulation of fluid exuded at the time of operation. A long paper by Dr. G. Langmann treats of Snakes and Snake Poison, in which he concludes that, in spite of some weighty opposition, antivenene (Calmette) must be considered the only reliable antidote. An elaborate, detailed, and accurate account of the pathology and treatment of tetanus, together with a complete bibliography, is contributed by Dr. A. V. Moschcowitz. The paper includes an analysis of no less than 290 recorded cases treated by subcutaneous injection of antitetanic serum and 48 cases treated subdurally. The mortality in tetanus appears to be more dependent on the severity, as estimated by the length of the incubation period, than on the treatment. There is a greatly diminished mortality when the incubation period exceeds ten days.

Traumatic Hæmorrhages into the Spinal Cord are treated by Dr. P. Bailey and pharmacology is represented by Dr. S. J. Meltzer's paper on the Toxicology of Potassium Chlorate, while a very valuable paper on Serum Globulin and Diphtheria Antitoxin is contributed by Dr. P. H. Hiss and Dr. J. P. Atkinson. In this they produce evidence that the magnesium sulphate precipitate from blood serum contains all the antitoxin.

There are other valuable papers, including one on a Streptothrix Infection of the Lungs by Dr. C. Norris and Dr. J. H. Larkin, in which a new method of culture on fresh tissue is described.

The articles are sufficiently and in some cases admirably illustrated. We should be glad to see a collection of articles of equal merit to these issued by the pathological departments of our own universities. In future issues, for the instruction of possible English readers, it would be well if the editor of these studies would indicate the price of the volume and where it may be obtained.

Kursus der Pathologischen Histologie mit einem Microskopischen Atlas enthaltend 35 Tafeln. (*Course of Pathological Histology, with Atlas.*) Von Dr. L. ASCHOFF. Privat-Docenten und 1. Assistenten am Pathologischen Institut zu Göttingen; und Dr. H. GAYLORD, Professor der Chirurgischen Pathologie und Director des Staatlichen Instituts für Krebsforschung der Universität Buffalo. Wiesbaden: J. F. Bergmann. 1900. Pp. 340. 35 Plates. Price 18*s.*

THIS work consists of a systematic description of the pathology of the various organs in conjunction with a series of excellent photo-micrographs designed to illustrate the pathological histology of the lesions. The atlas consists of 35 plates, each containing some six or eight photographs reproduced by a collotype process which has the great advantage that it permits the use of a lens and thus enables many details to be observed which are not visible to the naked eye. Speaking of the photographs as a whole they are excellent in their definition, equality of lighting, and other technical qualities. The reproductions are worthy of the photographs. Such illustrations are, as a rule, so expensive as to be prohibitive, and the beautiful atlas of Karg and Schmorl is for this reason out of the reach of the student. The price of the present work is so small that it is difficult to understand how it can have been produced profitably. There are in addition to the photographs a few plates of coloured drawings and the last three plates of the atlas form a new departure in pathological illustration, being reproduced by a photographic three colour-printing process which certainly seems, especially in the case of the last plate, to give very good results. The photographs appear on the whole to be good illustrations of the pathological processes, but there is undoubtedly a limit to the value of a photograph for this purpose, and it is doubtful whether a student would learn much from the representations given of round-celled and spindle-celled sarcomata. Most of the illustrations are taken with low powers and this diminishes the photographic difficulty greatly but renders some of the illustrations of micro-organisms of slight value, though there are some good representations of anthrax bacilli in tissues. There appears to be no indication of the magnifications employed, and in many cases the methods used in the preparation of the specimens are not given. This is a fault of some importance, as it becomes difficult to interpret such illustrations, for instance, as those which represent lesions of the spinal cord, and there seems to be no illustration of Marchi's method (given in the text), which alone enables the degeneration of individual fibres to be traced. There is an excellent photograph of the rare condition, argyria of the kidney. The systematic description is preceded by a section on histological methods which is good and up to date. The processes are described in a thoroughly practical manner. The fixing and hardening methods are clearly given and there is an excellently succinct but sufficient description of the short and rapid methods of use to the practising physician. Special methods are conveniently arranged under headings indicating the objects for which they are employed. Macallum's method for the demonstration of iron appears to be omitted. The importance of the hardening methods used in relation to the stains to be subsequently employed is clearly pointed out.

The last section of the book deals with Photo-micrography. There is a good index. The book is a valuable addition to existing works on pathological histology.

LIBRARY TABLE.

A Manual of Syphilis and the Venereal Diseases. By JAMES NEVINS HYDE, A.M., M.D., Professor of Skin, Genito-urinary, and Venereal Diseases, Rush Medical College, Chicago, &c.; and FRANK HUGH MONTGOMERY, M.D. Associate Professor of Skin, Genito-urinary, and Venereal Diseases, Rush Medical College, Chicago, &c. Second Edition, Revised and Enlarged, with 58 Illustrations in the Text and 19 Full-page Lithographic Plates. 1900. London and Philadelphia: W. B. Saunders and Co. Pp. 594. Price 17*s.*—This second edition is in many ways a distinct advance on the first, and especially worthy of notice is the addition of a series of lithographic plates taken from Mracek's "Atlas of Syphilis and the Venereal Diseases," which we reviewed in 1899. In this volume they are on a rather larger scale than in Mracek's works and the general effect is certainly

better. The account of gonorrhœa has been almost rewritten, and many minor alterations have been made. The description of syphilis is excellent, and the only criticism which we would offer is that the authors' objections to the employment of "primary," "secondary," and "tertiary stages" in the account of the disease are somewhat fanciful. No one at the present time imagines that in any particular case the disease must pass through all these stages *seriatim*, and the fact that these terms were misused and misunderstood at one time is not a sufficient reason for their disuse in view of the convenience of their employment. A valuable chapter is that on syphilophobia and venereal hypochondriasis. The descriptions of the forms of gonorrhœal rheumatism are hardly as clear as might be desired. There are three distinct varieties of joint affection in gonorrhœa; in the first form no bacterial infection of the synovial cavity can be discovered, and we are justified in looking on the synovitis as the result of the action of the toxins which have been absorbed; in the second form the gonococcus is found in the exudation into the joint; and in the third form, in which the symptoms are most severe, the synovial cavity is infected by the gonococcus and by some other pyogenic micro-organism as well. The results of the several forms serve usually to differentiate them. The book is a trustworthy guide to an important subject.

On Sanitary and Other Matters. By GEORGE S. KEITH, M.D. Edin., LL.D. Aberd., F.R.C.P. Edin. London: Adam and Charles Black. 1900. Pp. 124. Price 2*s.* 6*d.*—If obvious sincerity could carry conviction this little volume of essays would effect reforms in our national hygiene of a very drastic order. For instance, Dr. Keith bewails the reckless waste of water manifest in the methods we adopt for urban sanitation, suggests the substitution of "earth and pail" for water and pipe, and of a wet sheet for the morning tub. Although strong arguments are brought to bear on the reforms suggested they are hardly likely to shake our faith in such thoroughly British institutions as the water-closet and the cold bath. In other departments of personal hygiene Dr. Keith's views are more likely to gain adherents. Of the rapid and progressive deterioration of the young in this country the author supplies sufficient proof, and if his reforms could be generally accepted doubtless there would be a great conservation of national vigour. Chapter V. is devoted to the Story of an Eye, a most instructive example of the efficacy of Dr. Keith's methods. The invaluable experiences of a long life's work in general practice by a man of keen observation and Scotch shrewdness are well worthy of respectful attention. Few practitioners at the end of a busy career have the energy to record for the benefit of younger men the experiences which their age and observation can provide. Many of the text-books which young practitioners and students read for their instruction are written by authors who can claim neither of these essentials. Dr. Keith's experiences should not be overlooked by practitioners who take an intelligent interest in natural methods of healing.

FOREIGN UNIVERSITY INTELLIGENCE.—*Basle:* Dr. Fritz Egger has been promoted to an Extraordinary Professorship of Medicine, and Dr. Carl Hägler to an Extraordinary Professorship of Surgery.—*Berne:* Dr. Otto von Herff of Halle has been appointed to the chair of Midwifery and Gynæcology vacated by the migration of Professor Bumm to Halle.—*Cracow:* Dr. Stanislaus Maziarski has been recognised as *privat-docent* of Histology.—*Tübingen:* Dr. C. Bürker has been recognised as *privat-docent* of Physiology.—*Vienna:* Dr. Anton Freiherr von Eiselsberg of Königsberg has been appointed to the chair of Surgery held by the late Professor Eduard Albert.—*Zürich:* Dr. M. Freudweiler has been recognised as *privat-docent* of Hydrotherapy and Dr. Otto Veraguth as *privat-docent* of Neurology.

Analytical Records
FROM
THE LANCET LABORATORY.

TABLOIDS: (1) QUININE BISULPHATE AND CITRATE (EFFERVESCENT); AND (2) PILOCARPINE NITRATE.
(BURROUGHS, WELLCOME, AND CO., SNOW-HILL-BUILDINGS, LONDON, E.C.)

THE combination of a saline febrifuge such as potassium citrate with quinine is valuable. In this tabloid one grain of quinine bisulphate occurs with 15 grains of potassium citrate. The tabloid is first powdered before the addition of water when an agreeably effervescing draught is obtained. The draught offers also the advantage of being sedative in its effect upon the gastric coats owing to the carbonic acid gas. Tabloids of pilocarpine nitrate contain one quarter and one-tenth grain respectively of the alkaloidal salt. It appears that there is considerable variation in the physiological effects of the galenical preparations of jaborandi, but that the use of pilocarpine is reliable for full physiological action. The best salt for the purpose is said to be the nitrate, which has been used with promising results in uræmia. The salt also has been tried in all stages of croupous pneumonia and in diphtheria. The pilocarpine nitrate tabloid is quickly soluble in water.

(1) DIGIT TOILET SOAP; AND (2) LAUNDRY WASH.
(THE WAGEL SYNDICATE, LIMITED, 254A, HIGH HOLBORN, LONDON, W.C.)

The sample of toilet soap submitted to us gave satisfactory results on examination. It contained a minimum of water, is economical in use therefore, and, more important still, the ingredients are correctly adjusted so that there is no alkali in excess. The soap further is free from irritants. The laundry wash is a soap specially prepared for the cleansing of linen and similar fabrics. It is of jelly-like consistence and contains a proportion of free alkali. It is very cleansing and contains no injurious chemicals.

CYPRIDOL.
(WILLCOX AND CO., 49, HAYMARKET, LONDON, S.W.)

"Cypridol" is the name given to a so-called "bin-iodised" oil. For administration the oil is contained in capsules. It is a clear yellowish oil with a creasote-like smell. According to our analysis it contains both mercury and iodine. It is regarded as containing a "nascent bin-iodide" dissolved in a strictly neutral antiseptic oil. It is given by the mouth or by hypodermic intra-muscular injection in venereal diseases. There is considerable testimony in favour of administering mercury in this form and by these methods.

"MÜNCHENER LÖWENBRAU" LAGER BEER.
(THE MUNICH LION-BREW CO., 62, HOLBORN-VIADUCT, LONDON, E.C.)

This beer is brewed in Munich and sent to this country in special ice wagons and subsequently bottled at the depôt in London and Pasteurised. On analysis it presents the characteristic features of the well-known brown Bavarian beer. The results were as follows: malt extractives, 6·09 per cent.; mineral matter 0·17 per cent.; alcohol, by weight 4·62 per cent., by volume 5·78 per cent., equal to proof spirit 10·13 per cent. We have carefully tested the beer for impurities but with negative results. It is quite free from metallic contamination and there is not the slightest evidence of even the minutest quantity of arsenic which analysis is able to detect. The commendable point about Munich beer is that, while highly nutritious, exceeding in most instances the value in this respect of English beers, it contains a minimum of alcohol. Its flavour is pleasantly malty and the beer is undoubtedly wholesome and refreshing, this last quality being contributed

in no small measure by the presence of an important quantity of the soluble phosphate of potassium derived, of course, from the malt.

LOZONE.

(LOZONE WORKS, MARTIN'S-BUILDINGS, VINE-STREET, LAMBETH, LONDON, S.E.)

"Lozone" is a special preparation of peroxide of hydrogen which by reason of its purity is well suited for medicinal use. Peroxide of hydrogen has been used internally in both gastric and intestinal troubles. The special feature of "lozone" is that, unlike most preparations of peroxide of hydrogen, it is quite stable. We gained proof of this by the fact that analysis showed on two occasions precisely the same result in regard to its oxygenating value. We found that on one occasion the liquid contained 2·26 volumes of available oxygen. Three weeks later this value proved to be exactly the same, so that no loss of strength had taken place, despite the fact that no special precautions had been taken against external influences, such as light or exposure to the air. The preparation may obviously be relied upon.

GLYCEROLES (GLYCERINE TINCTURES).

(MACKEY, MACKEY, AND CO., 175, GRANGE-ROAD, BERMONDSEY, LONDON, S.E.)

The powerful solvent action of glycerine on the active principles of drugs is well known, and doubtless, from the pharmacological point of view, glycerine as an extractor is, in reality, an advance on alcohol. We have received specimens of the glycerine extracts or tinctures of nux vomica, opium, hyoscyamus, digitalis, cardamoms, and compound camphor. They are perfectly clear and staple preparations, and very convenient for administration or dispensing. The glyceroles are growing in favour. They are certainly elegant preparations.

KOLAX.

(FLETCHER, FLETCHER, AND CO., HOLLOWAY, LONDON, N.)

Kolax (or laxative cocoa) has been prepared in response to a want frequently expressed by practitioners for a simple, trustworthy, and palatable laxative. Kolax contains a well-known laxative extract and malted cocoa proves an excellent vehicle for its administration. The cocoa used is of excellent quality, as, according to our analysis, we found no extraneous fat or any evidence of alkali being used to make the cocoa "soluble." The combination affords a laxative in an agreeable guise.

KOLA WINE.

(L. M. DUBLACHER, AGENT, 12, SAVAGE-GARDENS, TRINITY-SQUARE, LONDON, E.C.)

The genuineness of this wine is attested to by the fact that by operating on a large quantity we easily separated crystals of caffeine from it. It is said to be prepared with the best Jamaica kola nuts. The vehicle is a good port wine. On analysis the following results were obtained: extractives with sugar, 12·13 per cent.; alcohol, by weight 15·67 per cent., by volume 19·28 per cent., equal to proof spirit 33·79 per cent.

THE ARMY ESTIMATES.

MR. BRODRICK, who has admittedly proved himself to be a man of courage and ability, made a long and comprehensive statement in introducing the army estimates last week and clearly outlined the main points in the Government's new scheme of military re-organisation. In the first place, it may be stated that the army estimates amount to close upon £88,000,000, and it is proposed that the total strength of the British army should be brought up to nearly 700,000 men. Among the more important points raised by the War Minister were the necessity of having three army corps always ready, the increase of the artillery and mounted branches of the service, and the urgent need of reform in our medical and transport arrangements. Apart from war we have to maintain 115,000 men in India and the colonies and are dependent on voluntary recruiting. The existing system is to continue but is to be vastly developed; recourse is not to be had to compulsory service, but an efficient defence must nevertheless be had somehow, and there is to be no separate Indian army. It would be impossible, as well as altogether beyond our province, to accompany Mr. Brodrick through a speech extending over two and a half hours in delivery, but we may say that it is probably the most important and sweeping declaration of military policy and reform that has been made in our time—certainly since the abolition of purchase and the introduction of short service in the army

The new necessities of the empire have been accentuated and brought home to us by the experience and lessons which have been obtained and learned in South Africa, as well as by recent debates on the subject of army administration in the House of Lords. The consequence of all this has naturally been to focus public attention on the subject and to call forth an earnest attempt to frame a large, bold, and comprehensive measure of some sort dealing with every branch and department of the service. This attempt Mr. Brodrick has now made, and he has very plainly indicated the standard at which he is aiming and the principles by which he has been guided. There were many people who thought that the report of the Royal Commission on the South African Hospitals would share the fate of many of its predecessors in the way of Royal Commissions, which after giving rise to a hot fit of excited discussion are practically laid aside. But the consideration of the subject had not advanced very far before all speculation in this respect was brought to an end by the strong declaration of Mr. Brodrick in the House of Commons of his intended action in regard to the reform of the army medical service and of his determination to make any changes, however drastic, that were needed; nor did he omit to indicate rather significantly some of his own impressions on the subject which were not altogether favourable as to the effect of some of the changes which had been introduced into that service of late years.

We do not think, by the way, that candidates for the Royal Army Medical Corps are likely to be attracted by all the discussions that have taken place.

The first thing which strikes us in this new army scheme, which is undoubtedly, as we have said, a bold and comprehensive one, is, Where is the requisite number of soldiers to come from? We do not see that Mr. Brodrick has made this at all plain. He does not offer any additional inducement to enlist by any increase of pay, although he does promise the introduction of some changes which will probably tend to popularise the army. But the whole military system appears to stand in need of re-consideration. It should be seen whether changes could not be made which, without gravely affecting the discipline and efficiency of soldiers and corps, would better adjust army life to the tastes, habits, and social customs that obtain outside it. We readily admit that in all which concerns the health and comfort and convenience of the soldier there has been enormous improvement and that this improvement is still going on. Still, young fellows who will gladly submit to courses of drill and instruction in shooting are nevertheless not prepared to adopt a barrack-room life and to exchange their personal liberty for much that they find irksome, monotonous, and distasteful to them. In times of war it is different. Any latent patriotism or military ardour which may be present is sure to manifest itself then, and recruits are always forthcoming because of the love of adventure, excitement, and the contagious influence of their fellows. We want some plan by which the services of men of this stamp can be obtained and utilised to a far greater extent than is done at present, and we think that it might be accomplished if some plan could be devised by which men could be allowed to live out of barracks and to attend at stated times for drill, shooting, and field manœuvres. A number of such men would no doubt subsequently offer themselves for enlistment in the regular army. Many medical officers think that we require a different system of recruiting. The recruiting officers in a large city or town should occupy a position in a prominent street or thoroughfare instead of being hidden away in a back street or at some obscurely placed barracks. The station should fly a flag and have a good and rather attractive exterior and a clean, inviting, and well-appointed interior where all information could be obtained and the examination of recruits be carried out.

THE LANCET.

LONDON: SATURDAY, MARCH 16, 1901.

The Duties of House Surgeons at the East Suffolk and Ipswich Hospital.

A LETTER which we print on p. 815 gives the particulars of a dispute which has arisen between the Board of Management of the East Suffolk and Ipswich Hospital and the house surgeons of that institution, one result of which has been the dismissal of the two house surgeons from the posts to which they had recently been appointed. It appears to have been a custom at the hospital that the house surgeons should furnish upon a printed form particulars, for use in the local press, of the accidents the victims of which are from time to time brought to the hospital. With this custom Dr. KAY and Mr. WORTS, the present house surgeons, refused to comply on the ground that the medical man has no right to make public information with regard to patients under his care without the consent of the patients or at least without that of their near relatives. The matter was brought before the Board of Management of the hospital at one of their weekly meetings, and a resolution was subsequently passed by the board embodying the custom and making it an instruction from the board to the house surgeons. Whether this resolution was strictly in accordance with the powers of a weekly meeting of the board not specially summoned is not of immediate importance, but we will assume that as far as the formalities to be observed it was properly passed under the seventy-seventh rule of the hospital which lies before us. This rule states that "the board of management with the consulting and honorary members of the medical staff shall have power at any meeting specially summoned for that purpose to make and issue, and from time to time to alter and amend, regulations for the guidance of all or any of the paid officers and servants of the hospital, and such officers and servants shall observe and abide by such regulations. Copies of the regulations shall be hung up in such parts of the hospital as the board shall from time to time direct."

Assuming that the prescribed formalities have been complied with we are still compelled to doubt whether the regulation is one the infraction of which would entitle the board of a hospital to dismiss house surgeons who accepted office before it was made and who declined to be bound by it; while we also emphatically question the wisdom of such a regulation. It must be taken to have been the intention of those who framed the seventy-seventh rule (which we have quoted) that the regulations made under it by the Board of Management should be reasonable regulations, fit and proper "the paid officers and servants of the hospital" in their several capacities to obey. In our view, for instance, a new regulation that the house surgeon should scrub the wards or write a weekly article in a local newspaper would clearly be beyond the powers of any Board of Management to make and to enforce. And we think that it is unreasonable for the board to expect their house surgeons to transgress what they feel to be the spirit of medical ethics—a feeling in which they have our unqualified support. The new regulation that the board have made is carefully worded with discreet vagueness, but as it intimates that information to the press shall be given "according to precedent" it would seem that they require the filling up of the form published in Dr. KAY'S letter to us. Now furnishing information to the press cannot by any stretch of imagination be brought within the reasonable duties of any house surgeon, in addition to which medical ethics forbid, as our correspondent rightly contends, the furnishing by a medical man of information concerning his patients to anyone, unless the patient or his family has consented to its being imparted. It will be seen, moreover, that the form supplied to the house surgeons at Ipswich indicates particulars of which a house surgeon can have no personal knowledge and for which he is asked to take responsibility by appending his signature. We may assume that he is intended to state the nature of the injuries received by his patients, although this—the only matter really within his cognisance—is not definitely asked for; while he is in terms desired to give the patient's name and address, the place and time of his injury, and the nature of the accident. Whether these are fit and proper points whereon the reporter should exercise his ingenuity and zeal we will not discuss; our contention is that they do not come within the province of the house surgeon, while the publication of them by him would involve him in serious responsibility. Many accidents that come into a hospital form at some time or other the subject of legal inquiry. The criminal courts deal with injuries wilfully inflicted, in the civil courts insurance companies dispute their liabilities, those injured by the negligence of others seek compensation, and employers are sued by their workmen for injuries sustained in their employ; while a recent Act of Parliament has now extended the Workmen's Compensation Act so that on and after July 1st next it will embrace agricultural labourers. In such cases the house surgeon is an all-important witness where the injured person has been treated in a hospital, and it is grossly unfair to such a witness that he should be compelled to make public his first impressions of the extent of injuries and the cause of them with regard to which he will, perhaps, at some future date be examined and cross-examined in a court of law. A premature statement thus publicly made may, whoever has made it, prejudice most unfairly the case of a complainant or of a defendant, even though it be substantially accurate. Still more may it do so if some, perhaps unavoidable, mistake has occurred in it. In such a case the hospital which concurred in the mistake being made, and the house surgeon or other person who consented to make it, would be likely to undergo hostile and damaging criticism, if no worse resulted.

Let us take such an announcement as this for example. "JOHN SMITH is lying in the East Suffolk and Ipswich

Hospital suffering from concussion of the brain and other injuries received when driving a team on the farm of Mr. HENRY JONES of such-and-such a parish." This we conceive is the kind of information which the house surgeon is expected to furnish in more precise terms, affixing his signature to names, dates, and times which he can only have learned by hearsay. The paragraph may be perfectly accurate but the statement may damage "JOHN SMITH" in the eyes of some one from whom he seeks employment and who may have a prejudice against a workman who, as he has read, has not been skilful enough to avoid an accident and who has, moreover, suffered from concussion of the brain; while under the new law referred to such a statement will also imply liability on the part of "HENRY JONES" to pay compensation to an injured labourer. This again may, in the case of a man known not to be well off, gravely affect the credit of "HENRY JONES." Therefore, if the statement be perfectly true it may seriously displease and inconvenience both SMITH and JONES, while if by any error wrong names and places have been given, or some exaggeration has taken place, either of them may have substantial cause of complaint. We have accordingly, for such reasons as we have given and for such as are contained in Dr. KAY'S reasonable letter, come to the conclusion that the new regulation of the Board of Management of the East Suffolk and Ipswich Hospital is one which the board should neither have made nor insisted upon, while the custom upon which it was founded was undesirable in the interests of the hospital as well as those of its officers. We hope that the editor of the newspaper, to whom allusion has been made by name, will reconsider the matter if his views have been correctly indicated. As a member of the Board of Management of the hospital he will no doubt feel it incumbent upon him to adopt that course only which he is satisfied is best for the interests of the institution, of which interests he is a trustee. As journalists we are in full accord with him when he says that "a paper must be run"; but we are sure that he would imply when using such words that it must be "run" properly. Now it is not proper for the house surgeons of the East Suffolk and Ipswich Hospital to make the statement about their patients in the daily press that is required of them. To do so is ethically wrong. It is unfair to the patients; it may involve the hospital in discredit; moreover, the house surgeons cannot know, save by hearsay, the things which they are required to vouch for with their signatures.

"The Status of the Country Doctor."

WE publish to-day an address on "The Status of the 'Country Doctor,'" by Mr. HARRY ROBERTS, B.Sc. Lond., L.S.A. Mr. ROBERTS speaks with the authority of one who lives in a country town of some 1100 or 1200 people, which is well supplied with the class upon whose influence, past and prospective, he descants with much originality and independence. "The country doctor" is a favourite subject of novelists and other writers. Mr. ROBERTS does not mean by this description only those who live in small villages, but virtually all general practitioners as distinguished from the "separate class of physicians" who, in past days, "although frequently ignorant of medicine, were almost invariably men of culture and wide knowledge, as these were then accounted." The general drift of his address is to magnify the change in the conception of culture which has taken place since the study of science began to compete seriously with the study of classics. Familiarity with Latin and Greek writers is, in his opinion, mere pedantry, knowledge bounded by words, and so of little value. Culture implies acquaintance with the points of view of the great writers and dreamers of the world—modern as well as ancient; it requires us to have lived freely among people of many conditions, and to "have spent much time among the higher regions of existence." Culture must result in greater tolerance, greater sympathy because fuller understanding, and withal, less pomposity. It is the belief of Mr. ROBERTS that the medical practitioner, in virtue of his better education, as compared with that of his predecessors and with that of the clergyman, is in the way of acquiring this higher culture, and with it a predominant influence even over "the parson" who until lately was the only educated man in the country parish. Mr. ROBERTS is anxious for the development of this true culture in medical men in order that they may still further improve their status, their influence, and, to quote his words, their "power of materially modifying the structure of provincial life."

In the main we agree with Mr. ROBERTS. We have often pointed out the steady growth of the influence of medical men in society; and in our opinion the growth of this influence must be progressive if they are true to their opportunities and their duties. This will be the case all the more if we do not too pointedly arrogate to ourselves the first influence in communities. We have enormous advantages. Our profession as a scientific one is practically undivided. We are not broken up into schools that strive for mastery and disparage their rivals. As the scientific basis of our position and practice is developed our influence must be more and more unassailable—unless some judicial blindness should overtake civilised communities, as almost seems to be the case in respect of certain of the best-established facts in medical science. It is probable that the scepticism to which we refer is a mere temporary phase of civilised ignorance which experience—perhaps very rough experience—will correct. The ordeal of suffering, if nothing else avails, will bring men back to sanity and to obedience to the laws of health and of disease which it is our high function to study. And unless our study be very superficial and perfunctory it must give us such an advantage as to compel the growing respect of men and of communities. It is a large ambition to modify materially the structure of provincial life. But even this should be possible to men following the calling of FOTHERGILL and JENNER, of ALISON, of FARR and CHADWICK, of LISTER and SIMON, who have influenced legislatures at home and abroad. The members of our profession in small districts should have in some sense an easy triumph. They have, it is true, more ignorance and prejudice to overcome. But they are in closer contact with the victims of these defects. They are the chief representatives of science in their districts. They count for more than men who are lost in large communities, and the development of municipalism

gives them local chances which are not always obtainable in great cities.

Mr. ROBERTS is too severe in his criticism of the faults that hinder the influence of the country practitioner. Prominent among these he considers a certain pomposity or bumptiousness which has been the favourite theme of satirists from JOHN OF SALISBURY downwards, due mainly, he thinks, to two causes—firstly, a lack of knowledge of the great book of wisdom outside our own handicraft, and, secondly, our lack of humour as a profession. There is some truth in this view, but a very diminishing quantity. We admit the defect of humour, and it is a great defect, and we heartily endorse Mr. ROBERTS'S advice in favour of a little more study of the humorists and their reflections on our profession. On the other hand, it strikes us that Mr. ROBERTS takes the humorists a little too seriously and applies their satires a little too literally to the profession of the present day. We claim to have some knowledge of the country practitioners of the last and the present generations, and we venture to think that very few of them would be found to answer to the description of JOHN OF SALISBURY or even to that of CHARLES DICKENS, either as respects pomposity or the zeal with which they have haggled for fees—which is another of the faults by which, according to Mr. ROBERTS, we defeat our purpose and lower our status in the community. But while we differ from Mr. ROBERTS as to the degree to which the profession is now open to the satires which have been heaped upon it in the past we agree in his main contention that the influence of our profession is increasing and must increase, and that this increase can only be hindered by our own failings in the pursuit of truth and our own bearing towards those who are less fortunate and less instructed than ourselves. Unfaithfulness in our own work and the assumption of airs of superiority will delay indefinitely that influence which society shows an increasing disposition to accord to those who really study medicine and who apply its discoveries in an earnest and reverent spirit to ameliorate the conditions of modern life.

The Medical Staff and the Management of the National Hospital for the Paralysed and Epileptic.

OUR readers will be interested to know that the controversy between the medical staff and the Board of Management of this hospital has entered upon a fresh, and it is to be hoped a final, phase. It is desirable to recapitulate the various steps in the campaign, and it may be stated at the onset that, however absurd it may seem, the whole trouble has arisen through the refusal of the board to entertain the request of the staff that two of its members should be annually elected to the Board of Management. About 10 years ago the staff first made this request, but the board declined it, substituting instead occasional meetings between the house committee and the staff. This arrangement was summarily, and without any reason apparently, discontinued by the board at whose suggestion it had been instituted. The method then proposed by the board for communication between that body and the staff was by means of two delegates of the latter, who might ask to meet the board or be invited to meet them, in order to discuss matters of medical interest or importance in the administration. The staff accepted this arrangement on the distinct understanding that the delegates were to be present at all the discussions on the subjects concerning which their views and opinions were asked. In connexion with the establishment of a system of payments by out-patients this arrangement was violated by the board and the subject on which their advice was asked was discussed while the delegates were absent. The staff naturally declined to have anything more to do with a system which the board could so manipulate as to make it quite useless for the purposes for which it was instituted. This led to a fresh demand from the staff for representation by means of the annual election of two of its members to the Board of Management. This demand was made at a special meeting of the board and staff at which several members of the staff as spokesmen for their colleagues presented a case which we think should have carried conviction. The board absolutely declined to entertain the proposal, not condescending to state any reasons for their action. The staff, now apparently for the first time, recognised that they were dealing with a deeply prejudiced board. Their next step was to address the governors. But meantime various details of maladministration, of faulty domestic and nursing arrangements, had come under their notice and they strengthened their appeal by a statement of these in their letter to the governors. Any ordinary person would now have thought that the board would take steps to inquire thoroughly and impartially into the charges. What they did was to appoint a sub-committee of themselves to inquire into their own defective administration—a sub-committee which naturally proceeded to find that everything was as nearly perfect as it well could be. Of course, the medical staff declined to submit their evidence to any such hole-and-corner inquiry. The board apparently remained uneasy in their own minds and the next step was to summon a meeting of governors.

A meeting of governors of the National Hospital for the Paralysed and Epileptic can be summoned by means of a single advertisement in any newspaper in the United Kingdom. An advertisement, which, we believe, appeared in the *Times* early in August, was all the notice which the governors who were known or suspected to be favourable to the staff received of the forthcoming meeting. Others, however, presumably those on whom the board thought they might depend, received a special notice and also a copy of a proxy in favour of the board which they were requested to sign and to return. According to the rules of the hospital proxies are only available after a ballot has been demanded upon any question submitted to a meeting of governors, so that the board, in asking for these proxies before the meeting, were acting illegally, and if they had even an elementary acquaintance with the rules governing the charity they must have known that they were acting illegally. The meeting was held on August 11th last and was attended by 16 governors. By a majority of 14 to 2—

and of the 14 six were members of the board or relatives of members—the meeting decided that representation upon the Board of Management should be refused to the staff and that no further inquiry into the affairs of the hospital was needed. A verbatim report of the speeches made at this meeting will be found in THE LANCET of August 18th, 1900, p. 551. It may be incidentally mentioned that in a letter to the *Times* of March 11th, 1901, from the secretary-director of the hospital (to which we shall have to make further reference) Mr. BURFORD RAWLINGS asks for "the continued approval of the many governors, including nearly all the chief contributors, who decided against the demand of the staff in August last." There was only one meeting in August and it was attended by 16 governors.

Of course, it was obvious that the staff could not consider such a pronouncement as final, and indeed they had protested against the manner in which the meeting was hurried through and had declined to take any part in it for that reason. The correspondence which now ensued in the daily press showed clearly that something more would have to be done, and in December last the board announced that the Lord Chancellor, a member of the Board of Management, had nominated Sir FORD NORTH to hold an inquiry into "the allegations of the medical staff concerning the care, comfort, and treatment of patients." The staff were informed of the intention to hold this inquiry three days, and only three days, before it was to take place, and were told that the board would be represented by counsel and that it was permitted to the staff to be similarly represented. It was scarcely to be expected that the staff would be satisfied with such a partial inquiry or with a tribunal which had no medical element in it. The staff, in short, declined to have anything to do with the inquiry, and as a consequence it was adjourned *sine die*, although it is significant of the unreasonable attitude assumed by the board that even their own counsel advised them to enlarge the scope of the inquiry and to have the assistance, if thought expedient, of two assessors, one nominated by the board and the other by the medical staff.

It will be remembered that in July last the Metropolitan Hospital Sunday Fund decided to withhold the usual grant to the hospital pending a settlement of the differences between the board and the staff. In December last the Prince of Wales's Hospital Fund took a similar step, intimating that unless matters were settled before May 1st the grant would not be made at all. Certain attempts were now made by friends of the board and of the staff to arrange some ground of agreement. These negotiations were more or less of a private nature, but as a consequence of them resolutions were passed by the board and by the staff with reference to the composition of a committee of inquiry and the matters with which it was to deal. So far as can be gathered the board wished this tribunal to decide upon the matters in dispute; the staff, on the other hand, held that the inquiry was only for the information of the governors with whom the final decision must rest. The board broke off negotiations in an abrupt manner which, if they were sincere in their desire to effect some basis of settlement, is inexplicable. It is hoped that the governors at the ensuing meeting—in view of what we have stated as to the grants from the Metropolitan Hospital Sunday Fund and the Prince of Wales's Hospital Fund—will insist on some explanation of the delay for which the board were responsible in replying to the proposals of the staff.

We now come to the latest phase of the controversy—the publication in the *Times* of March 11th of a letter signed by the secretary-director of the hospital giving his account of the controversy and intimating that there would be a meeting of governors on March 23rd. Mr. BURFORD RAWLINGS's letters have been many and remarkable and his last letter is not the least remarkable among them. The statement that "the attitude of the staff towards the proposed inquiry and certain statements put forward by, or on behalf of them, appear to show that the staff would be quite ready to abandon the charges if only they were granted the demand for representation, which the charges were intended to enforce," must, to anyone who has followed the controversy, carry its own contradiction on the face of it. It is to be hoped that the staff will insist on the production of proof of these alleged statements. Mr. RAWLINGS attributes the present financial embarrassment of the hospital to the action of the medical staff. A consideration of the position which the Metropolitan Hospital Sunday Fund and the Prince of Wales's Hospital Fund have assumed in regard to the controversy, and of the delays which the board have interposed, will clearly show who is responsible for the crippled finances of the hospital and the impending restriction of its usefulness. Not only on behalf of the staff of a particular hospital, but in the name of the medical profession as a whole, we indignantly repudiate the insinuation, also contained in this letter, that medical influence in hospital administration can possibly impair the usefulness of the charity or detract from its character of benevolence. A hospital exists primarily for the cure of disease and the relief of suffering. Those in whose hands these high functions rest are not the Board of Management alone or the medical staff alone. The two bodies share the duties and responsibilities. The medical staff can have only one object in desiring proper representation upon the board—viz., to strengthen the administration in order that its power of dealing with disease and suffering may be increased and extended. And we would point out how misleading is the suggestion made in this letter that the administration of the National Hospital for the Paralysed and Epileptic is similar to that which obtains in other institutions. The National Hospital for the Paralysed and Epileptic is neither a large nor an ancient charity. It cannot be compared, for instance, with St. Bartholomew's Hospital. It is a special hospital and should be compared, therefore, in its administration with other special hospitals—e.g., the Brompton Consumption Hospital, the Children's Hospital, Great Ormond-street, or the Royal London Ophthalmic Hospital. In all of these there is an ample representation of the staff on the Board of Management. Indeed at Brompton every member of the staff is *ex officio* a member of the board. Medical influence in its councils could not be stronger, and yet it has never been suggested that it is pernicious. The statement in the letter of the secretary-director of the National Hospital that the influence of a medical staff becomes dangerous in precise proportion to the eminence of the

medical staff is too preposterous even to be considered. We trust that the governors will sweep away all quibbles and side issues, will insist on a full and impartial inquiry, and will finally intrust the medical staff with that voice in the administration of the hospital to which their eminent services more than entitle them and which the good of the hospital demands.

Annotations.

"Ne quid nimis."

REGULATIONS FOR MILK AND CREAM.

THE Departmental Committee appointed by the Board of Agriculture to inquire into, and to report upon, the desirability of making regulations with regard to the sale of milk and cream have just published a very interesting document containing their recommendations. Despite the opinion expressed by many that the problem of controlling the milk trade was one which well-nigh defied perfect solution, yet the overwhelming body of evidence is in favour of the view that the setting up of some statutory limits for milk is necessary. Unless it be held that the Food and Drugs Acts are as regards the sale of milk unnecessary—a view actually taken by not a few—it is difficult to escape from the conclusion that some limits should be fixed in order to make analysis a criterion as to the quality of the milk. It has been proposed that seasonal limits might be adopted in order that no injustice should be done, for it is true that the quality of normal milk varies at different seasons of the year. The adoption, however, of a set of minimal limits which should be applicable at all times and under all conditions to milk produced for consumption, is the course which has commended itself to the committee. Ultimately, after a careful survey of the evidence, the committee are disposed to conclude that the milk produced for sale in this country contains on an average from 12·5 to 12·8 per cent. of solids, comprising from 3·7 to 4 per cent. of fat. Any milk, therefore, the committee consider, in which the total solids are less than 12 per cent. should be further inquired into, and if it should be then found that the amount of butter-fat is less than 3·25 per cent. a presumption would be raised that it had been mixed with separated milk or water, or that some of its original fat had been abstracted; if the solids, not fat, are found to be lower than 8·5 per cent. a presumption that it had been mixed with water would arise. In regard to cream the committee are of opinion that the weight of evidence was not favourable to the establishment of official limits of fat; nor does it appear that any substantial difficulty arises in selling cream in different qualities, at corresponding prices, to meet the requirements of the public. It is very properly considered, however, that steps should be taken to prevent the artificial thickening of cream by the addition of gelatin or other substances. The recommendations of the committee also relate to the composition of separated milk and condensed milk, in regard to the quality of which similar recommendations as to limits are laid down. The report is signed by all the members of the committee except one who, being unable to give his assent to the principal recommendations, embodies his own conclusions in a separate report. Mr. Barham in this report is in favour of the adoption of a seasonal standard. He takes 3 per cent. of fat as fairly representing, with 11·75 per cent. total solids, the milk during the months from July to February inclusive and the same amount of total solids with 2·75 per cent. of fat for the months from March to June inclusive. In any case he regards the milk as deficient in its normal constituents when the total solids are less than 11·75 per cent. and the non-fatty solids than 8·5 per cent. Mr. Farmer signs the report subject to a reservation. He also agrees to seasonal limits and objects to the suggested limit of 3·25 per cent. of fat for the whole year. We feel sure that it will be ultimately shown that legislation can only be satisfactorily applied towards upholding the supply of milk of good quality by the adoption of one limit for all seasons of the year. Moreover, since it was announced some months ago that the limit adopted at the Government laboratory was 3 per cent. of fat the quality of the London milk-supply has very materially improved, as shown by the latest analytical returns.

THE UNIVERSITY OF LONDON.

AT a meeting of the Faculty of Medicine at the University of London on Friday, March 8th, the following reference from the Senate was discussed and passed:—

That it be referred to the Faculty of Medicine to consider and report to the Senate as to the manner in which it may best carry out the duty stated in the following paragraph of Section 80 of the statutes of the University—viz.: the Senate shall use its best endeavours, whenever practicable, to secure common courses of instruction for internal medical students in the preliminary and intermediate portion of their studies under appointed or recognised teachers at one or more centres.

A committee was appointed to report, consisting of the members of the Senate elected by the Faculty of Medicine, the professors of anatomy and physiology who are members of the faculty, and two teachers from each of the medical schools, who are also members of the faculty. Only one-fourth of the members of the faculty were present at this important meeting. So far as the intermediate portion of the medical studies is concerned, we think that, although the study of physiology may be centralised or concentrated, it will be obviously impossible to carry out this in the case of anatomy. The Commissioners who drew up the statutes cannot have any knowledge of the teaching and restrictions of practical anatomy. In preliminary science concentration is very advisable, but even here the University must not lose sight of the fact that the large majority of medical students merely study for the first examination of the conjoint board, and the schools will scarcely hand these scholars over to a centralising board as suggested by the Commissioners who have drawn up the statutes. The whole plan of centralisation is unadvisable, as then there will be no competition among the teachers, and they will have no touch whatever with the necessities of medical teaching, but will become a pure scientific bureaucracy. Moreover, there are many excellent laboratories in the London medical schools which are admirably fitted for scientific instruction and are supervised by as good teachers as are likely to be found in any single institution.

LORD ROSEBERY AND COLONEL LOCKWOOD ON THE LONDON WATER-SUPPLY.

COLONEL LOCKWOOD, M.P., when he was giving evidence before Lord Llandaff's Commission described himself as being "quite a chicken" amongst water company directors. If we may be permitted to carry on the pleasing metaphor of the honourable and gallant gentleman we will congratulate him on being now a fully fledged fighting-cock amongst directors, for he has challenged Lord Rosebery to inspect the excellent water-fittings which the companies so kindly wished their customers to put in at their own expense. It does not appear from the correspondence which was published in the *Times* that Lord Rosebery expressed any desire to see the water-fittings, but his letter seems to show that he is not very thoroughly acquainted with the details of the

metropolitan water-supply or of the absurdity of the plan proposed by the London County Council to purchase the companies' undertakings and to resell parts of them to the extra-metropolitan authorities. Nor can the London County Council be properly looked upon as the metropolitan authority for London, as Lord Rosebery implies. The metropolitan authorities are the Cities and Boroughs and the County of London itself forms but a small part of "Water London."

THE BEER-POISONING EPIDEMIC.

AFTER the hearing of considerable evidence at the inquest held at Liverpool on the body of a woman who died in December last, presumably from the effects of poisoning by beer, the jury have arrived at the following verdict: "That the cause of death was arsenical poisoning through drinking beer; that Bostock's directors were not culpably negligent, but were to blame for not notifying to the makers of the acid that it was required for food purposes; that Nicholson's were not culpably liable, but displayed extreme indifference; that Mr. Cook, the works chemist, was neglectful but not culpably so; and that Dr. Morris, the consulting chemist, displayed great carelessness in his supervision of Cook's discharge of his duties." This verdict is accompanied by the following rider: "We are of opinion that better supervision should be exercised over the quality of the liquors supplied in licensed houses." The inquiry lasted 11 days and the evidence was striking in showing how urgently further legislation is needed in regard to the supervision and control of the processes of manufacture of articles used in and for the preparation of human food and drink.

THE RECENT EPIDEMIC OF PLAGUE IN SYDNEY.

THE report on the outbreak of plague at Sydney during 1900 made to the Government of New South Wales by the chief medical officer of the Government and President of the Board of Health (Dr. J. Ashburton Thompson) has just been issued. The report commences with what may be called a despatch stating the names and services of the permanent and temporary members of the Department of Public Health, who both worked zealously during the epidemic and furnished the various details upon which the report is founded. Between Jan. 19th and August 9th there were 303 cases, but of these only 262 are referred to in the clinical descriptions embodied in the report, for 39 patients died before notification or so soon after that no clinical observations were possible; while two others lay ill at a distance from Sydney. Prodromal symptoms were hardly ever observed, but, as a rule within a period of from one to 12 hours, the patient passed from a state of apparent health to one of severe illness. Rigors, headache, vomiting, flushing of the face, and suffusion of the eyes were almost constant symptoms, while the temperature ranged from 100° to 102° F. In general the bowels were constipated, but diarrhœa sometimes occurred and was a bad symptom. In some cases even at this early stage the glands were painful. During part of the first and the whole of the second day the symptoms deepened in gravity, coma, delirium, and sleeplessness supervening, while the temperature rose to between 101° and 105°. This condition was maintained more or less up to the fifth or even the sixth day. Diarrhœa and external hæmorrhages occurred in some cases and were of grave import. The bubo increased rapidly. During the sixth, seventh, and eighth days the disease began to decline and improvement in favourable cases was rapid. On the tenth day convalescence began and was accompanied by suppuration of the bubo. The above represents the ordinary course of the disease, but in some cases patients simply complained of feeling ill and died quite unexpectedly with no definite symptoms. The post-mortem appearances were those of a profound blood change. The bacillus pestis was easily obtained from buboes or viscera and as easily cultivated. The form which the disease took was almost exclusively bubonic, but 17 cases were septicæmic and one was apparently pneumonic. As regards sex incidence nearly four times as many males as females were attacked; as to age incidence more than half the cases occurred in persons between 15 and 35 years of age. The gross fatality was 34 per cent. Only 10 of the patients were Chinese, a race in which plague fatality is very high (as a rule 80 per cent.), and of these 10 Chinese eight died. If these be deducted the fatality is reduced among whites to 32·4 per cent. For protective inoculation Haffkine's serum was employed and in all 10,700 persons were inoculated, including the members of the various staffs. No illness occurred among the latter except in one case—that of a temporary scavenger who escaped inoculation. His case was slight and he presumably infected himself from dressings. Among the inoculated public 13 cases occurred, all of which were very slight. One fatal case was that of a boy whose relatives declared that he had been inoculated two months before his attack, but proof of inoculation was not forthcoming. For treatment Yersin-Roux serum was used in 71 cases, and the report, while not coming to any definite conclusion, states that the serum has antitoxic powers but can hardly be relied upon as a very active curative agent at present. Rigid administrative measures were taken, cleansing of dirty wharves, houses, and areas was carried out, patients and "contacts" were strictly isolated both from the general public and from one another, and a rat-destroying campaign was entered on. Section VI. of the report is most interesting and deals with the origin and mode of spread. Shortly, the disease is shown to have not been "catching." It was not communicated in any important degree by clothing, merchandise, or excreta. The epidemic was caused by communication of the infection from rats to man, and the medium of infection is presumed to have been fleas. Section VII., which deals with prevention, is summed up in the following paragraph: "Thus the best and the only attainable defence against epidemic plague lies in the removal of dangerous conditions which for the most part could not occur under good municipal management, even of the elementary processes of inspection, record, and scavenging." The appendices contain, amongst other subjects, a full bacteriological report, together with experimental observations on the modes of infection, and a clinical and pathological report. There are also spot maps showing the probable places of infection and the distribution of the disease. The report, of which we have given but the outline, is exceedingly interesting and deserves careful study.

THE WORK AND THE EXPENDITURE OF THE METROPOLITAN ASYLUMS BOARD.

AT a recent meeting of the Islington Guardians Mr. Sanders, one of the representatives of Islington at the Metropolitan Asylums Board, reported that they had only 3192 patients in their hospitals. This number is 555 less than in 1900 and 1107 less than in 1899. He was reminded by his fellow guardians that, nevertheless, the expenses increase. It is in the nature of the case that the patients of these hospitals should fluctuate much in numbers, but the steady increase of the expenditure is remarkable. The fact was brought out by the chairman of the Financial Committee of the Metropolitan Asylums Board at their meeting on Saturday, March 9th, who remarked that every class of institution except the training-ship, and every group of expenditure except maintenance charges, showed an increase. The net increase in the current expenditure for 1899 was £47,000 and for the year 1900 it was £63,000.

Decrease in the number of hospital patients was in no way followed by decrease in expenditure; the daily average number of infectious patients was 6 per cent. less, and the total current expenditure was 10·5 per cent. more, than in the previous year. The ambulance service spent £2487 more, yet removed 8328 fewer patients. The number of patients decreased 11·53 per cent.; the number of the staff increased 0·68 per cent. Such a state of affairs is difficult to understand and is likely to go on until the whole administration of the Board is subjected to that criticism which alone checks the automatic increase of expenditure in bodies who have to make precepts of payment to other bodies and who are not directly amenable to public opinion. One curious and questionable step the Board have taken to reduce their expenditure, and that is to terminate the insurance policies on their buildings on the ground that they have paid £13,878 5*s.* 2*d.* and only received back £6110 13*s.* 7*d.* A much wiser thing in the way of curtailing expenditure to be credited to the Board is the defeat of a motion for the provision of hospitals for measles. Such a provision would add enormously to the expenditure of the Board, while it would be very unlikely to curtail the number of epidemics of measles and would possibly add to the intensity of the disease.

THE LIMIT OF ALCOHOLIC STRENGTH OF NATURAL WINES.

AN important point in regard to the amount of alcohol which may be normally developed in a natural wine is raised in a letter which appears in our correspondence columns this week. The discussion of the question, as will be seen, had its origin in the results obtained in THE LANCET Laboratory in regard to the strength of certain South Australian wines under examination. The view of our correspondent would appear to be borne out by the report of a Commission appointed to inquire into the alcoholic strength of South Australian wines by the Colonial Government. According to this report a great number of natural wines produced in South Australia showed an alcoholic strength of as much as 38·5 per cent. of proof spirit, which is equal to 15·5 absolute alcohol by weight or 19·18 per cent. by volume. Further instances, according to this report, show strengths of 38·7 per cent. and 42·57 per cent. proof spirit, which are equal to 18 per cent. and 19·83 per cent. by weight of absolute alcohol respectively. The assumption is that the climate of South Australia possesses such ripening qualities as to produce a grape juice exceedingly rich in sugar. As a matter of fact, the grape juice shows a specific gravity far exceeding that of grape juices produced in other wine-producing countries and especially those of Europe. Of course, it does not follow that because grape juice is exceptionally rich in sugar it will necessarily produce a corresponding amount of spirit, for whatever the limit may be there is undoubtedly a point at which natural fermentation will cease when the alcoholic strength is such as to prevent the further growth of the yeast organisms and therefore the further development of spirit. It will be found that biologists, chemists, and others have generally laid down that the amount of alcohol produced in a normal fermentation does not usually exceed 12 per cent. by weight, which is equivalent to about 26 per cent. of proof spirit. Accordingly, when a wine is found to contain alcohol in excess of this amount a suspicion is entertained that it has been fortified or brandied. Thus, in dealing with certain specimens of colonial wine Dr. A. Dupré and Dr. J. L. W. Thudichum, in their work on "The Origin, Nature, and Use of Wine," report the strengths respectively of 29·4 per cent. and 27·2 per cent. of proof spirit. They conclude in the former case that the wine "consequently was brandied" and in the latter that it "was therefore alcoholised." Dr. Percy Frankland, in Thorpe's "Dictionary of Applied Chemistry," page 117, writes also: "When the proportion of alcohol produced amounts to 12 per cent. the further growth of the yeast is prevented, and with 14 per cent. (30·26 per cent. proof spirit) fermentation ceases altogether." Mr. Wynter Blyth, in his work on "Foods," page 480, also writes: "Natural wines contain as a minimum 6 per cent. (13·11 proof spirit) and as a maximum a little over 12 per cent. of absolute alcohol by weight (26 per cent. proof spirit). Even under favourable conditions scarcely more than 15 per cent. of alcohol (32·38 per cent. proof spirit) can be obtained by fermentation." Again, Professor Fischer of the University of Leipsic writes in his recent book on "The Structure and Functions of Bacteria," on page 132, that "as soon as all the sugar in a fermenting fluid is used up the process ceases, as it does also in any case when the alcohol has reached 12 or 14 per cent." Again, von Richter, in his "Organic Chemistry," page 120, says: "The yeast germs cannot grow in liquids containing 14 per cent. of alcohol." Dr. Dupré and Dr. Thudichum also say in their work already alluded to: "But even a wine of 26·5 degrees of proof spirit is upon the limits of what is chemically possible, because fermentation even under the most favourable conditions is invariably arrested by the presence of about 15 per cent. of alcohol." Lastly, Dr. Hassall came to a similar conclusion when he stated in connexion with the work of THE LANCET Analytical Commission that "even if the must were rich enough to permit of the formation of a higher amount of alcohol, it could not do so since fermentation is stopped in any liquid containing 15 per cent. of absolute alcohol by volume, equal to 26·66 per cent. of proof spirit." There seems, therefore, to be a consensus of opinion amongst biologists, chemists, and others that the utmost limit of normal alcoholic strength in a natural wine is 26·66 per cent. of proof spirit. And upon this figure is founded the means of deciding whether a wine is fortified or not. Yet according to the returns published by a Commission in South Australia a natural wine produced in that country may contain as much as 42·57 per cent. of proof spirit, or, according to our correspondent, 44·52 per cent. Wherefore it would appear that the generally accepted method of adjudging the character of a wine as regards whether or not it contains added alcohol is untrustworthy and its adoption if persisted in is calculated to do an injustice.

PALUDISM AS A CAUSE OF GENERAL PARALYSIS.

IN the *Revue de Médecine* (November, 1900) Dr. E. Marandon de Montyel, medical superintendent of the Ville-Evrard Asylum, has called attention to the little known but important fact that paludism must be reckoned a cause of the peculiar cerebral degeneration which constitutes general paralysis of the insane. After referring to the classical case observed by Lemoine and Chaumier of a workman, aged 38 years, who was free from syphilitic or alcoholic taint, but who nevertheless developed general paralysis of the insane as the result of malarial infection contracted at the age of 23 years and of repeated attacks of ague since then, it is pointed out that the only thing lacking to complete the chain of proof was the absence of a necropsy after the patient had died with all the clinical signs and symptoms of general paralysis. It was also pointed out that in this case there was an absence of neuropathic or hereditary taint, and Lemoine and Chaumier concluded that the toxic action of the malarial poison was the cause of the disease. From the study of eight cases of paludism followed by symptoms of general paralysis or pseudo-general paralysis de Montyel concludes that the following may be accepted:—1. Some of the cases result

from chronic and the others from acute paludism; in the present article there are four cases of each kind. 2. In four cases of acute paludism three showed clearly that the malarial poison could produce, after a brief delay, a progressive general paralysis of cerebral functions ending in death, while in one case the symptoms were those of pseudo-general paralysis and were both non-progressive and curable. In all the above four cases it was probable from their histories that some form of neuropathic predisposition existed. 3. Chronic paludism was capable of producing a true progressive and fatal peri-encephalitis in predisposed subjects. Of four cases of chronic paludism three incontestably showed this. Two of these three showed a syphilitic taint and a predisposition to cerebral congestion. In the fourth case, however, there was no such taint and careful examination disclosed that chronic paludism was the sole discoverable cause. This case was very remarkable and was as follows. The patient, a man, 40 years of age, single, a shoemaker, was free from hereditary taint, whether neuropathic, congestive, or vesanic, and devoid of physical or mental stigmata of degeneracy. He was of good physique, well-developed and intelligent in mind, of temperate habits, and free from syphilis and from cranial injury. 16 years prior to admission as a patient at the Ville-Evrard Asylum he lived in a malarial district in Algiers and contracted intermittent fever of the quotidian type. In spite of all treatment this recurred every summer during the months of July and August, and he suffered also from neuralgias of the face and head. He remained single, and till the age of 39 was of normal mental condition. He then (at the beginning in 1892) began to suffer from weakening of his mental powers and a fear of becoming mad. He became gloomy and preoccupied, suffered with his head, and developed insomnia. He complained of loss of memory and of lack of power of the association of ideas. In the summer of 1894 he had a recurrence of malarial fever, the second attack of which was followed by an epileptiform cerebral seizure, from which he rallied only to pass into confirmed and progressive general paralysis. The clinical symptoms with regard to speech, the pupils, and the facial muscles were typical of general paralysis, and he developed both grandiose and hypochondriacal delusions. He died within 11 months, and the necropsy showed the usual lesions, both macroscopic and microscopic, found in the brains of general paralytics.

THE BRISTOL CRUELTY CASE.

MR. JUSTICE DAY has sentenced to 15 years' and five years' penal servitude respectively a man and woman cohabiting at Bristol and convicted before him of attempting to murder the child of the man, a boy aged eleven years. We need not go into the circumstances of revolting and callous cruelty in which they endeavoured to compass the death of their victim except to say that they richly deserved their sentences. We are more concerned to point out, as the public press of this country has pointed out again and again, that as long as parents of the more or less impecunious class are permitted to insure their children for sums that will reward them handsomely for their children's deaths, so long will child murder be profitable, while we need hardly add that child murder can be and is committed in many more cases than those which are investigated at coroners' inquests and at assizes. The Bristol convicts relied partly, at all events, upon starvation, so that when they were detected there was a half-starved child who could be produced, and his starvation proved to demonstration. In part also they relied on exposure to cold, causing him to live in a room with the window open and without a fire in winter. Exposure of a child, less hardy, perhaps, and younger than the boy at Bristol, to wet or damp, to cold and to draughts, will soon set up a condition of things which, duly developed, will become serious for the child. If the medical man be not summoned too soon the child may then die with all the protection afforded by medical attendance and the burial certificate, which is all that the law requires; for the medical man is not a detective, nor is he charged with any inquiry into all that happened before he was called in and as to what produced the symptoms that he found awaiting him. With regard to insurance, the boy at Bristol was insured with one company alone for £25 and there was mention of insurance effected or attempted with others, while both man and woman had boasted of what they would do with the money that would accrue when the poor little fellow was dead. It may be right that parents should be able to recoup themselves for the expense to which the death of a child may put them, and many will say that if the insurance companies were permitted to pay to parents such a sum as they were proved to have expended on medical attendance and funeral expenses for a deceased child no great harm would result from this arrangement. Perhaps it would not, for in such circumstances few or none of the parents who are capable of hastening the deaths of their offspring would trouble to insure them. They would still have a motive for destroying them—namely, the saving of the expense that small children necessarily cause to their fathers and mothers. We cannot prevent child murder from ever occurring, but we can put difficulties in the way of its being committed with impunity by improving our regulations for the certification and registration of deaths, and we can abolish some part of the profits which form the motive of its committal. The profits of the companies which make money by insuring children ought not to be considered in such a connexion; they are not of the class of vested rights which deserve protection.

TREATMENT OF THE COCAINE HABIT BY COMPLETE WITHDRAWAL OF THE DRUG.

DR. G. W. NORRIS has published in the *Philadelphia Medical Journal* of Feb. 9th last a case of the cocaine habit of 10 months' duration treated by complete and immediate withdrawal of the drug. The case was that of a dentist, aged 30 years, who 10 months prior to admission to the Pennsylvania Hospital had suffered severely from hæmorrhoids, for the relief of which he had used cocaine locally as a rectal injection. Relief of pain was obtained, but he nevertheless continued to take the drug in daily increasing doses and after some time by the hypodermic method, on account of its stimulating and exhilarating effect. At the time of admission to hospital his daily dose was 16 grains of cocaine hydrochlorate. One result of the cocaine habit was that time seemed to him to pass very rapidly, minutes seeming like seconds, and he experienced a continuous, voracious, insatiable appetite. His energy and his application to work, however, declined, and he developed a tendency to procrastination. Insomnia was constant unless he took cocaine, upon the injection of which in small doses he slept well for one or two hours, when its repetition was necessitated. Single large doses kept him awake. For several months he had been troubled with hallucinations of hearing and he avoided street-cars and public gatherings because in such places he heard voices accusing him of being a "cocaine fiend." At night he would wander from room to room in his efforts to escape the voices which he heard talking about him, calling out, "Look, he's going to take another!" and, while reasoning with himself on the subjective character of his troubles, yet he was impelled by their vividness to flee from them as from realities. During the week prior to admission he had had syncopal attacks whenever injections were omitted for more than two hours. The treatment adopted

after his admission to hospital consisted of the complete withdrawal of the drug and the administration of one-thirtieth of a grain of strychnine sulphate every fourth hour and of 20 grains of sulphonal every two hours. On the first night he slept fairly well; on the second night he required no hypnotic whatever and only the medication with strychnine was continued. He rapidly became well and in a few days volunteered the statement that he felt like his former self for the first time for many months and that time once more seemed real to him. He complained of no craving for the drug and was discharged from hospital a week after admission as cured, though advised to keep himself under medical surveillance for a longer time.

CHELSEA CLINICAL SOCIETY.

THE annual clinical debate of the Chelsea Clinical Society was commenced on March 12th, at the Jenner Institute of Preventive Medicine, under the presidency of Dr. William Ewart. The subject for debate was, "The Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Infective Rheumatism," and it was introduced by Dr. Archibald Garrod, who read a paper which is published in full in the present issue of THE LANCET. Dr. Garrod was followed by Dr. F. J. Poynton, who contributed a joint communication from himself and Dr. Alexander Paine. An interesting evening was closed by contributions from Mr. N. C. Macnamara and Dr. C. O. Hawthorne. Our report of the discussion is deferred until next week.

THE TREATMENT OF TUBERCULOUS PERITONITIS.

DR. BURNEY YEO'S paper on this subject which we publish in another column is of unusual interest. Tuberculous peritonitis is a condition fairly frequently met with, but the treatment of the condition has always been unsatisfactory. Many authorities have taken most despondent views as to the possibility of cure. Many facts connected with this disease, however, suggest that peritoneal tubercle is not possessed of great activity or powers of resistance, and that its natural tendency to obsolescence is readily facilitated by what appear to be but very trifling disturbances of the conditions under which it is developing. Dr. Yeo refers to the results of the surgical treatment of tuberculous peritonitis by which very successful results have been achieved, especially in the early stage and when there is always more or less ascitic fluid in the peritoneal cavity. A practitioner would naturally prefer to dispense with operative procedure if possible, although if he considered it the only means of cure he would certainly recommend it. Dr. Yeo draws attention to a method of treatment which he has tried with success—namely, the application to the abdomen of a liniment containing iodoform or iodine, at the same time administering internally a pill containing iodoform and creasote. He believes that when iodoform is rubbed into the skin of the abdomen in a young person it probably rapidly enters the blood and is, if regularly applied, continuously eliminated in the secretions, including the secretions into the serous cavities, and as these do not pass out of the body as the secretion of the kidney does they must in course of time become richly charged with iodine compounds, at any rate sufficiently so to act as antitoxin to the tubercle toxin or as anti-bacterial to the bacilli. This suggestion is a plausible one and this method of treatment will doubtless receive further and more extended trial. It is a fatal mistake to extol any therapeutic measure that has not passed the ordeal of extended experience, but we shall await with interest the reports of Dr. Burney Yeo and other observers who may adopt the line of treatment suggested by the above theory. It might be found advantageous to use some of those preparations recently introduced in which iodine is combined with a hydrocarbon basis by means of which, it is stated, the drug can be easily applied and is very readily absorbed.

THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

IN THE LANCET of March 9th, p. 736, will be found a letter from Dr. W. D. Halliburton dealing with this important matter. It will be seen by his letter that indexing and cataloguing commenced with all papers published on and after Jan. 1st of the present year and that there will be two indices—i.e., an index of authors and a subject index. The participating nations are to be severally responsible for the indexing of papers published in their own country, and a British bureau has already been formed for Great Britain and Ireland. There is in addition a central bureau to collect, coördinate, and publish the labours of the various national bureaus. Dr. Halliburton draws special attention to certain of the more out-of-the-way subjects connected with medicine and asks workers in these fields to send copies of their papers to certain gentlemen responsible for the sections under which the subjects in question are included. We are glad to be able to congratulate the promoters of the scheme upon its active inception. The work will be arduous and never ending, but it has in it possibilities of the greatest value to science. The enormous growth during the past century of every department of science has necessitated a corresponding growth in scientific records, and to reduce this mass of matter to a form in which its details may be easily accessible will be no light task. But the benefits accruing to science from such work will be commensurate with the difficulties of the task, and we can only express our sincere wish for the success of the various committees.

SICKNESS AND MORTALITY IN THE NAVIES OF THE WORLD.

DR. J. A. PORTENGEN of the Netherlands navy has made a praiseworthy attempt to compare the published vital statistics of the navies of the world, but owing to the variant data upon which the returns are founded "the final results of the comparison," as Dr. Portengen himself observes, "are not very encouraging." In some instances—as, for example, in the Netherlands navy and also in our own—medical officers are required to include in their returns every case of illness or injury, no matter how slight or trivial; whereas in others, notably the navies of Italy and Japan, only serious diseases are reported. The term "invaliding," too, has different values in different countries, meaning permanent retirement of the individuals invalided in some, while in others it refers also to patients sent to their homes or elsewhere on account of temporary disability and liable to be recalled to duty on the expiration of their sick leave. The death-rate in our navy, as well as in that of Japan, comprises the mortality from all causes, but in the German navy the deaths occurring under medical treatment are alone included in it. During the decade referred to in the subjoined table the English mortality is swollen owing to the loss of the *Serpent* off the coast of Spain, of the *Victoria* in the Mediterranean, and of a boat's crew in China; but the German rate is exclusive of the losses in the *Adler*, the *Eber*, and the *Iltis*. In the vital returns of the Danish navy all pilots and dockyard artificers, together with their wives and families, are included in the totals, which are thus rendered useless for the purposes of comparison; while in the navies of Spain, Portugal, and Chili the statistical information that has been issued is too imperfect and fragmentary to be of service. Up to the present the naval authorities of France,

Sweden and Norway, Turkey, Greece, and Argentina have abstained from publishing any vital statistics whatever, but according to a notification recently issued by the French Marine Minister, M. de Lanessan, this reproach will shortly cease to be applicable with regard to the first-named country. It is much to be desired in the interests of sanitary science that the vital statistics of all naval Powers should be drawn up in a uniform manner, admitting of comparison and compilation.

Annual Sickness, Invaliding, and Mortality per 1000 of Strength in the Navies of the Undermentioned Countries during the Decade 1888–1897.

Countries.	Sickness.	Invaliding.	Mortality.
England, Home waters	793·6	22·9	5·66
,, Indian ,, ...	949·5	23·4	4·52
,, Chinese ,, ...	1232·6	24·9	7·63
,, Pacific Ocean	1012·9	21·7	4·89
,, Mediterranean	1057·6	39·9	9·76
,, Cape of Good Hope ...	1215·4	36·7	7·67
Average	1043·6	28·2	6·67
Germany, Home waters	764·6	201·5	4·4
,, Indian	1020·4	74·8	6·8
,, Chinese	1281·7	123·6	8·2
,, Pacific Ocean	1051·3	59·7	7·7
,, Mediterranean	870·6	100·9	4·8
,, Cape of Good Hope ...	1514·9	92·3	6·8
Average	1083·9	108·8	6·4
Netherlands, Home waters	988·6	426·7	4·3
,, Indian ,, ...	2088·5	401·3	6·2
,, Cape of Good Hope	1571·0	277·8	4·4
Average	1549·3	368·6	4·9
United States	830·7	71·5	5·40
Italy	412·3	9·8	5·19
Japan	386·7	8·9	8·74
Austria	698·7	22·1	6·85
Russia	1159·3	22·6	7·19

THE BIRMINGHAM CONSULTATIVE MEDICAL AND SURGICAL INSTITUTION.

DR. H. WARD IRVINE having announced his retirement from the post of consultant to the Birmingham Consultative Medical and Surgical Institution it remained for those interested in that body to consider what they should do next. An advance in this direction was made on March 7th, when the delegates of the Birmingham Hospital Saturday Fund met in the Council Chamber to receive and consider a report from their executive committee upon the situation. Mr. Alderman Cook was in the chair and was supported by Mr. Arthur Chamberlain and Mr. Councillor Nettlefold. The executive committee asked the delegates to agree that a successor to Dr. Irvine should be immediately secured. The chairman, in asking the meeting to approve the recommendation of the executive committee, pointed out that the institution during the nine months of its existence had been applied to by 400 persons. In the discussion which followed Mr. Morgan, a delegate, asked whether the successor to Dr. Irvine, if he felt that he could not rely upon his own judgment, could transfer the case to a consultant at a fixed charge of half a guinea. The chairman pointed out that they could not make such an arrangement. If the consultants offered to adopt this course it would be worthy of consideration, but they had never given any assent in that direction. Dr. E. D. Kirby pointed out that there had never been any necessity for the scheme, for any general practitioner could always get a consultation for his patient at any fee which he thought that the patient was able to pay. He moved that the report should be referred back. The amendment, however, was not seconded and the motion to accept the report was agreed to. Mr. Chamberlain then addressed the meeting. He said that they would not quarrel with the medical profession about fees. The medical officers would be offered either all that remained over of the fees after paying expenses or else a fixed salary. Instead of one medical man he suggested two, three, or even four, and he considered that the medical men might meet and see whether they could not agree upon some such scheme. So this is the latest idea of the Birmingham Consultative Medical and Surgical Institution—a medical aid society pure and simple, run by a lay committee. At present the institution is without a medical officer, so we will defer further comment until it obtains one.

CHILD LABOUR IN ITS HYGIENIC ASPECTS.

THE subject of child labour in its social and hygienic aspects has again recently come up for notice in an important statement which has been prepared by Mr. A. Spencer, chief officer of the Public Control Department of the London County Council. Reference was made in these columns two years ago to the report on the subject[1] laid before the London School Board and the observations made thereon by Dr. T. J. Macnamara. Shortly afterwards the subject was referred to in Parliament by Sir John Gorst, Vice-President of the Council of Education, in his speech on April 28th, 1899, when submitting the education estimates. In a powerful and sympathetic speech Sir John Gorst analysed the statistical returns and the records of the histories of board school boys and girls who among the poorer classes had often to toil for 50, 60, or 70 hours a week, before and after school hours, to earn a living; he described the hardships and sufferings of these overworked and underfed children in passages of genuine eloquence and pathos, and gave several illustrative cases with every detail of their squalid and wretched lives, "a picture which," as was observed by the newspaper press at the time, "would haunt the memory for many a day after." The School Board returns in their aggregate show that the total number of children entered as employed is 144,026. The occupations of these school children, mostly boys, include—hawking goods, 4235; agricultural work, 6115; boot and knife cleaning, &c., 10,636; selling newspapers, 15,182; working in shops and running errands, 76,173; needlework (girls), 4019; and domestic work (girls), 20,849. Of these schoolboys and schoolgirls 30,807 belong to the County of London, and work on an average from 40 to 70 hours a week, eight boys working between 71 and 80 hours, and two over 80 hours a week. The pay given to the children is generally very small. In 40,240 cases it was from 1*s.* to 2*s.* per week, in 47,273 cases it was between 6*d.* and 1*s.*, and in 17,084 cases it was under 6*d.* per week. In 104,600 cases out of a total of 144,000 the children were paid 2*s.* a week or less. The average wage of the total number was about 1*s.* a week, but in some cases meals, and occasionally clothes, were given. The report laid before the School Board in February, 1899, said: "Probably some (of the children) die as a direct result of the severity of the toil inflicted upon them in their early years, and certainly many more of them must become a permanent and heavy charge upon the public purse because of the physical incapacity resulting from the rigour of their early

[1] THE LANCET March 11th, 1899, p. 707.
[2] THE LANCET, May 13th, 1899, p. 1309.

experiences." The report adopted by the School Board two years ago considered that the restrictive powers were insufficient to prevent the over-employment of children. In our previous remarks[1] suggestions were made to the effect that county councils should frame by-laws "preventing the labour of, say, children under 12 years before 8 A.M. and after 8 P.M., and to limit the total number of hours per week to, say, not more than 30 hours." Mr. Spencer's report summarises a number of facts and points out that "the present system presses heavily on a large number of children, who, worked to exhaustion out of school hours, are rendered unfit to receive any real benefit from the educational system provided for them." This was one of the very points on which emphasis was laid in our previous comments, in which reference was also made to the signs of fatigue, restlessness, and incapacity which such overworked children were prone to exhibit in the schoolroom. Juvenile employment is regulated by law as regards some occupations—e.g., the stage and the circus. Liverpool and several other towns have done something to regulate juvenile employment, and it may be suggested that some alteration or addition might be made as regards municipal laws by the London County Council in order to deal with the problem in London. Such a reform would tend not only to the good of these unfortunate boys and girls, but would be fraught with benefit to the race in the next generation.

AMONG the new Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England will be found Mr. Frederick Treves, Mr. A. D. Fripp, and Colonel G. S. Ryerson, M.D., their appointments being in recognition of their services to the troops in South Africa. Earl Roberts is also appointed to the Order, as are the Duke of Portland, Mr. Langman, Mr. Alfred Moseley, and Mr. Van Alen, all of whose work in connexion with the voluntary hospitals of the South African campaign is well known to our readers. Sir John Furley is promoted from Honorary Commander of the Order to Honorary Bailiff.

A TELEGRAM from W. F. Hely Hutchinson, Governor of the Cape of Good Hope, to Mr. Chamberlain, received at the Colonial Office on March 12th, 1901, states that the plague report for the week ending March 2nd was as follows:—Cases admitted, 24; deaths, 2; suspects, 4; contacts, 215. For the week ending March 9th the report was:—Cases admitted, 50; deaths, 18; suspects, 11; contacts, 299.

THE Council of the St. Andrews Graduates' Association are presenting an address expressive of condolence with the King on the death of her late Majesty Queen Victoria, and of loyalty and congratulation to His Majesty on his accession to the Throne. A similar loyal address has just been presented by the York Medical Society.

IT is proposed by his old friends, colleagues, and pupils at St. Bartholomew's Hospital to present Sir Thomas Smith with his portrait to commemorate his long connexion with the hospital. Subscriptions, which are limited to two guineas, are now being received by the treasurer of the fund, Mr. W. J. Walsham, 77, Harley-street.

THE Senatus of the University of Aberdeen are about to confer the honorary degree of LL.D. upon Professor Virchow of Berlin, Major Alfred W. Alcock, I.M.S., Superintendent of the Indian Museum, Calcutta, and Professor of Zoology in the Medical College of that city, and Dr. Angus Fraser of Aberdeen.

[1] THE LANCET, 1899, loc. cit.

HIS MAJESTY THE KING has graciously consented to continue to be patron of the Metropolitan Hospital, Kingsland-road, N.E. Mr. A. H. Allhusen, M.P., will preside at the festival dinner in aid of the funds of the hospital, to be held at the Whitehall Rooms on April 22nd next.

THE President, Vice-President, and Council of the Royal College of Surgeons in Ireland give notice that they will on Thursday, April 18th, elect a Professor of Surgery in the room of Sir William Stokes, deceased.

IT is announced that the King has been graciously pleased to appoint Sir Richard Douglas Powell, Bart., and Sir Thomas Barlow, Bart., to be Knight Commanders of the Royal Victorian Order.

DR. E. B. FORMAN, who sought re-election to represent North Hackney on the London County Council, but was unfortunately defeated, has, we are glad to see, been elected an alderman

SIR WILLIAM MACCORMAC, Bart., K.C.V.O., F.R.C.S., is to receive the Honorary Freedom of the Barbers' Company on March 26th.

THE annual general meeting of the Medical Graduates' College and Polyclinic will be held on Tuesday, March 26th, at 5.30 P.M.

HIS MAJESTY THE KING has graciously consented to become the patron of King's College Hospital.

THE STATUS OF THE COUNTRY DOCTOR.[1]

BY HARRY ROBERTS.

THE commencement of a new century, though it is really but an artificially selected moment, is a convenient time for considering our position, for looking back, and for contemplating the future. All of us in this room have this much in common—that though we may not all live in little villages we may all be classed as "country doctors," and it is in this inclusive sense that I use the term. There can be no doubt that from one cause and another the power of country doctors has very much increased of late years. To a large extent the village doctor has nowadays often much of the influence formerly wielded by the parson, and this displacement is growing. This improved status is largely due to the fact that we are better educated than our predecessors, for culture generally, in the long run, means influence. Until lately the parson was usually the only educated man in his parish, and almost the only educated men in our ranks were the separate class of "physicians" who, although frequently ignorant of medicine, were almost invariably men of culture and wide knowledge as these were then accounted. It is from this fact that "physician" has conveyed to the popular mind a sense of learning and of status far beyond that given by the titles of "surgeon" and "medical practitioner."

But in spite of Solomon there are new things under the sun, and culture in the twentieth century means a different thing from culture in the eighteenth. An acquaintance with "smutty" Latin jokes is no longer sufficient to stamp a man as a gentleman and a man of learning. A familiarity with the works of Latin and Greek writers is now of little value as the stamp of the cultivated mind, knowledge bounded by words being at length recognised as pedantry instead of wisdom. To be acquainted with the thoughts and points of view of the great writers and dreamers of the world—modern as well as ancient—to have lived freely among

[1] A paper read before the West Penwith Medical Society on Feb. 13th, 1901.

people of many conditions, to have spent much time among the higher regions of existence,—these are some of the things which go to make up culture as we now understand the term.

Greater culture means greater tolerance, greater sympathy because fuller understanding, and as a result greater power and influence. No sane man would suggest that we should imitate the old physicians and replace our technical knowledge by ever-so-desirable a general wisdom; but if we are to be other than mere artisans and tradesmen it is essential that our knowledge should go somewhat beyond technique. A familiarity with the thoughts and philosophy of others, moreover, may help in suppressing that bumptious, pedantic assumption of wisdom which has ever been a characteristic of our profession. Even in the twelfth century we find the learned John of Salisbury saying of our professional ancestors of those days: "The professors of the theory of medicine are very communicative, they will tell you all they know, and, perhaps, out of their great kindness, a little more. From them you may learn the nature of all things, the causes of sickness and of health, how to banish the one and how to preserve the other; for they can do both at pleasure. They will describe to you minutely the origin, the beginning, the progress, and the cure of all diseases. In a word, when I hear them harangue, I am charmed. I think them not inferior to Mercury or Æsculapius, and almost persuade myself that they can raise the dead. There is only one thing that makes me hesitate. Their theories are as directly opposite to one another as light and darkness. When I reflect on this I am a little staggered. Two contradictory propositions cannot both be true."

The pomposity which has by nearly all lay critics from Molière to Sterne been associated with practitioners of medicine has been due to two main causes: firstly, our lack as a mass of any knowledge of the great book of wisdom outside our own chapter of medical and surgical handicraft; and secondly, our utter lack as a profession of any sense of humour. When a carpenter speaks to us of his work, or a gardener of his, we all feel able to follow his talk and to offer some criticism, but it so happens that the work of doctors is of such a nature that the lay public know nothing at all about it. Hence it has been that a surgeon or a physician, knowing his own trade and recognising that he stood head and shoulders above the public in that small subject, believed that he was indeed an Admirable Crichton. This belief was, of course, based on his ignorance of the fact that there are other sorts of wisdom, other branches of knowledge, than the one or two he had heard of. Our venerable priggishness, our owl-like expression, our grave shakings of head, our solemn hat and coat, to the gods and to anyone who knows on what shallow pretence these absurdities were based there was food for many hearty meals of laughter. Scarcely an English wit but has been stimulated by the study of one of our typical colleagues. We have in the past seemed to suggest a sort of glorified farcical cheesemonger as our ideal. Even now we are respectable or nothing. Strip us of our respectability and we cannot as a herd be told from a crowd of deacons of Little Bethel—the same smugness, the same lack of humour, the same worship of the sacred Mrs. Grundy, the same fear of overstepping the stupid little laws and customs which prevail among the ignorant middle classes of our country districts. For what does all this "caste" which forms the basis of country life amount to? Were it founded on differences of intellect or on differences in taste or temperament there might be supposed to be some weird reason for the snobby cliquism which is so familiar to all of us. But it is not so. A man or a woman may be possessed of the keenest intellect, the finest taste, and the most developed temperament, yet if he or his father happen to be engaged in a fatal occupation such as manual work or retail trade his position in an English village or provincial town is not one to covet. So fundamental is the British worship of respectability that a recent writer has suggested it as an explanation of the habit of our ancestors of painting their bodies with woad. This colouring was the badge of their gentility and it was their pride that even in battle, though their enemies might take away their clothes, they could never strip them of their respectability. Things are much the same to-day. The "lady" whose grandfather perhaps was the honest host of the village inn, but whose father washed out the stain of the bar-parlour by a life of idleness, would choose death rather than the soiling of her drawing-room carpet by the feet of one not blessed with so much blue-blood. The successful clerk who has worked or wheedled his way into a partnership would offer but a frigid reception to his colleagues of former years. Of such stuff is ordinary English middle-class society built up. Such are the "ladies" and "gentlemen" at whose shrine most of us bend the knee. All this might be and should be altered. We, more than any other body of men, have power to do a very great deal to break down this childish and stupid game of "pretend we're real ladies and gentlemen," and so make country life less narrow and ignorant, more pleasant and cosmopolitan. We have this exceptional power on account of our intimate and peculiar relations with people of every class; and if we train our minds and hearts and regulate our lives with wisdom we may in time become the true directors of provincial social life. By proving that we at least are educated gentlemen, and that our lives are "*sans peur et sans reproche*," by showing further that we have no regard for the foolish little exclusiveness of provincial society, but that it merely excites our mirth, we may wield an enormous influence in the direction of overthrowing snobbery and bourgeoisdom. In a like manner we may do much to overthrow the equally ignorant and equally despicable form of pompousness—the pompousness of moral superiority which we commonly call "puritanism." At the bottom of the Anglo-Saxon heart is a firm conviction that all pleasure is sin, and this is a conviction which wants weeding out. In the Christian virtue of moral charity I think we compare favourably with the Christian church—but even in our ranks are plenty of moral prigs.

In a former paper which I read before this society I pointed out how essential to successful medical practice is deception. It is interesting to learn that this has always been more or less recognised. Thus about the year 1100 a very distinguished physician, Archimatthæus, wrote in his "The Instruction of the Physician": "Upon entering the house of his patient the physician should salute all with a grave and modest air, not exhibiting any eagerness, but seating himself to take breath he should praise the beauty of the situation, the good arrangement of the house, the generosity of the family; by this means he wins the good opinion of the household." On leaving he is to promise the patient a good recovery, but to tell the friends privately that there is much danger. "If he recover, your reputation is increased; if he succumb, people will not fail to remember that you foresaw the fatal termination of the disease." Even Bob Sawyer's trick of being called from church was very hackneyed in Dickens's time, for in the seventeenth century Gideon Harvey, one of the physicians to Charles II., wrote, that "the church door shall no sooner be opened but *ecce* Mr. Doctor, sitting in the most visible seat, Grave, Deaf, Dumb, and immoveable, as if an apoplexy of Devotion had seized him, out of which his Apothecary is to raise him by knocking at half-sermon at his pew-door to fetch him away post to a dying patient; by which means he draws the eyes of the whole congregation after him; but instead of going to a pretended House of Visitation they both drop into a cabaret, there to pass the fatigue of a forenoon Sunday. This knack of confederacy is to be repeated several Dominical days, until it hath made an impression on the people; that he is a man of importance, and of great Physick business." If we wish to convince, nowadays, we must be original and a little more subtle in our humbug.

There is one other feature in the popular picture of the doctor's character which should have a little consideration. When the humorists who have held our profession to ridicule have not been pointing to our pompousness they have usually had a shot at our zeal in pursuit of fees. As things are at present arranged, it is of course true that those who do useful work are right in seeking payment for the same. But there is a wise and a foolish course here. As far back as the twelfth century we find John of Salisbury writing of doctors that "they have only two maxims which they never violate; never mind the poor, never refuse money from the rich." As a matter of fact, no profession does such an amount of gratuitous work for the poor as does the medical profession, but for the most part we render our gratuitous services with such a bad grace that we get no personal satisfaction or public recognition. We are too apt to keep the fee ever before our eyes and on our lips, whereas the wise and pleasant way is surely to do our work smilingly as artists and as men of science, taking pride in our power and skill and regardless for the time being of the money payment we shall or shall not receive. By haggling

over money we degrade ourselves, lower the dignity of our profession, and in the end defeat our purpose and lower our status in the community. If we do our best for every patient who seeks our help, regardless of his wealth or quality or honesty, and content ourselves by merely sending out our quarterly or yearly bills, we may make a certain number of what money-grubbers would call bad debts, but our annual income will be as big as it would be if we adopted the dunning methods of the tradesman. We shall moreover, be spared the constant annoyance and irritation resulting from friction with our patients and our consciences.

On the whole, we may say that the position of the country doctor is better to-day than it has ever been, and that if we play the game skilfully and fairly, and take to heart the satires of the humorists, we may still further improve our status, our influence, and consequently our power of materially modifying the structure of provincial life. This is no despicable destiny.

Hayle.

THE ROYAL COMMISSION ON SOUTH AFRICAN HOSPITALS.

(Continued from p. 735.)

IV.

WE have commenced this series of articles with a summary of the report of the Royal Commission on South African Hospitals. We now proceed to deal with that report and with the evidence upon which it was drawn up. Nor shall we confine ourselves to these limits, but shall consider the whole question of the reorganisation of the Royal Army Medical Corps. Since we began this series of articles events have progressed with rapid strides. The debate on the Address afforded an opportunity which has not been neglected for seeking information from the Government as to its intended action in regard to the report of the Royal Commission on the South African Hospitals; and, as a reference to our Parliamentary Intelligence will show, this had the effect of eliciting a very important statement from the Secretary of State for War which has apparently materially altered the complexion of the case. Reform in the Royal Army Medical Corps has been promised.

The war in South Africa, and the causes which led to it, have, as everyone knows, given rise to a very voluminous literature; and even that portion of it which deals with the medical aspect of the campaign, especially in connexion with the South African Hospitals controversy, has already reached considerable dimensions. The latest additions to the subject have been the report and minutes of evidence of the Royal Commission with an appendix, and Mr. Burdett-Coutts's book on "The Sick and Wounded in South Africa" (which was published before the report), followed by his two very lengthy communications in which he reviews and animadverts upon the report of the Commission in a very trenchant and adversely critical way. The official report of the Commission consists of 71 folio pages, the minutes of evidence of 565 pages, and the appendix of 368 pages—to say nothing of reports of speeches in Parliament and of the published communications which have preceded and followed the appearance of the report itself. The amount of evidence afforded by such publications, which had to be considered, made it impossible to deal quickly as well as fairly with the question.

The subject is one which touches our national honour and interest and deeply concerns all classes of society. Our medical policy in time of war is a matter which should be kept altogether aloof from mere political considerations and party spirit, or class feeling and prejudices of any kind. We have always held and expressed the view that what is best for the public interest in general is best also for the medical profession whether in the army or out of it. We can only say on behalf of that profession that if an end can be put to these painful and recurring controversies, and if any measures of army medical reform can be devised for improving the organisation of the Royal Army Medical Corps, or for providing a better system of medical service in war than exists at the present time, so as to bring it more into harmony with all the requirements of the age in which we are living and those of modern warfare, there is no section of the community which will welcome or feel more grateful for these measures than the medical profession. We have carefully studied the reports and publications which have appeared and as the result of our labours we have left off with a conviction—which has been a growing one for some years past—that the time has come for re-considering the whole question, for enlarging our ideas and schemes, for putting matters upon a different and bigger platform than they now occupy, for, in short, introducing some new, bold, and broad measure of army medical reform while retaining all that is right and sound in principle or of proved value in the present system. The prevention of the diseases incidental to war, no less than the care of the sick and wounded, during a campaign, have always been, and, despite all we can do, will probably always continue to be, a very difficult problem for practical solution. What with the employment of highly mobile forces and the rapid marches and swift changes of position which modern methods of warfare necessitate on the one hand, and the growing feeling of patriotism and philanthropy and the advances in medical and sanitary science on the other hand, the problem is likely to be one of increasing difficulty and complexity rather than otherwise. But it must be boldly faced and deliberately considered. The creation of a British empire, the nature and size of armies, and the vast changes which have taken place in the science and art of war, have all tended to render the older methods of medical relief in war more or less of an anachronism. Viewed in this light we may regard the action of those who have brought about the appointment of a Royal Commission of inquiry into the care of the sick and wounded in the South African campaign as likely to be productive of much good instead of the reverse. Notwithstanding that the action initiated by Mr. Burdett-Coutts in his letter published in the *Times* of June 27th, 1900, and in some of his subsequent communications did not in form and course commend itself to our mind, we did not hesitate to declare that the main facts were sufficiently clear and, while waiting for a full explanation of the causes which led to them, we deplored their occurrence.

Since the publication of the report of the Royal Commission and of the strictures and criticisms which it has called forth, the question has, as we have said, made a great advance, for it has formed the subject of debates in which several speakers took part in both Houses of Parliament. Mr. Burdett-Coutts, who has, in his published letters, traversed the report from end to end, has asserted from his place in Parliament that the inquiry of the Commission has not been conducted in a way calculated to elicit the whole truth, and that the defects in the Army Medical Service have been concealed and buried in the lame and impotent conclusions of the report. We may fairly leave the Commission to take care of its report and to justify the course pursued and the conclusions at which it has arrived. Meanwhile the Secretary of State for War in a most important speech has made large admissions about the state of the Army Medical Service and has given such pledges in regard to it as should go a long way towards satisfying Mr. Burdett-Coutts. Mr. Brodrick has emphatically pledged himself to the introduction of a new and more satisfactory system which can only be brought about, he considers, by a drastic reform of the Army Medical Service; and Mr. Brodrick adds the promise that no effort shall be wanting, and that no past prejudices shall be allowed to intervene or to prevent the army from being given in the future an effective medical service. The machinery to be employed for the purpose, which will presumably be a strong Commission, has not yet been definitely settled, but we are promised that the advice and aid of the heads of the medical profession will be sought.

Turning now to the consideration of the report, we find that the zeal, devotion, and conduct of the medical officers generally who have taken part in this war have been admitted, and many of them have been highly commended. Not only will this be seen in the report itself, but more especially in the volume containing the Minutes of Evidence on the part of Lord Roberts, Mr. Burdett-Coutts (page 85), Mr A. Bowlby (pages 212–213) and of several others. We may here remark that all those who are specially interested in the subject should not rest content with simply reading the Report of the Commission. It was not until we had referred to the Minutes of Evidence that we were really enabled to appreciate the strength of the medical officers' position and the splendid work they had done, or to form

any adequate estimate of the great difficulties (which were for the most part of an unavoidable nature) that had to be overcome. Dipping into that volume and taking some of the evidence indiscriminately—such as that of Lord Roberts, Lord Kitchener, Mr. Watson Cheyne General Kelly-Kenny, Mr. A. Bowlby, Dr. W. Johnson, Major Bedford, Surgeon-General Wilson. Colonel E. W. D. Ward, and Surgeon-General Stevenson—will enable any dispassionate reader to form his own opinion on these points. We may consequently dismiss from consideration any question whether the Royal Army Medical Corps did their best in the circumstances. What the medical officers probably feel, however, is this: that all their laborious sacrifices and efforts have nevertheless ended in disappointment, and that they have somehow been very undeservedly identified with failure. One of the most noteworthy features of this war, it may be remarked, has been the adverse criticism to which almost all connected with it have been subjected. South Africa has proved the graveyard of several military reputations. Soldiers of repute have left this country only to realise, as a high Ministerial authority is stated to have remarked, that the South African campaign has been "one of miscalculations and disillusions." If the army medical service is to be re-organised under a fierce fire of criticism it will be at least the duty of all concerned to see that its newly-organised successor, which is presumably to appear phœnix-like out of its ashes, is something better and more complete. Nor do we despair of this being the outcome of the present situation. Towards this end we shall have much to say further on. Speaking generally of the report of the Royal Commission we may remark that it strikes us, as might have been expected under the presidency of Lord Justice Romer, as judicial in tone and eminently fair, although insufficiently vigorous, perhaps, in character. The Commission by its composite constitution was well fitted to take a reasonable, common-sense, and business-like view of the facts and evidence and of the military aspect of the situation; whereas much of the adverse criticism which the report has called forth from Mr. Burdett-Coutts is put from the advocate's point of view and with no little forensic skill. It is, moreover, advanced in defence and justification of a previously assumed position. After a brief account of the proceedings taken by the Commission the report leads off with some observations upon the evidence and the difficulties that had to be contended with in ascertaining the true condition of affairs, arising from various causes which are enumerated (page 3). It is, of course, always open to anyone to say—as, in fact, it is said—that owing to the operation of fear and other motives a very little knowledge of human nature, and especially of the military form of it, will lead to concealment of the truth. The Commissioners, however, it seems to us, took all the precautions which they could in this respect to arrive at just conclusions. Under the head of work done the Commissioners acknowledge that the Government and the military and medical authorities, both in England and South Africa, rendered every assistance and freely supplied all information that was called for (page 4).

Part II. of the report starts with some conclusions on various points of a general character having reference more especially to the war reaching a magnitude which the military and medical authorities had never anticipated that it would attain, to the hospital and ordinary provisions for the sick and wounded on active service in the field, and to some important points in connexion with the present campaign which require to be considered in the case of future wars. Under the headings of unit allowances and stationary and general hospitals a clear description of the hospital service is given. The evidence of the Director-General of the Army Medical Service and that of Lieutenant-Colonel Johnston and Major W. G. Macpherson, R.A.M.C., and others published in the volume of Minutes of Evidence may be usefully referred to in connexion with this part of the subject. The pivot of the whole field medical service system is to relieve the fighting force in front as much as possible of sick and wounded men by relegating them to the hospitals in rear. This is the direction which the sick and wounded must all eventually take, for only at the rear can they be provided for in the permanent hospitals—stationary and general. And here they should be in as well-equipped a hospital as at home. It is to be noted, the report tells us, that the South African campaign is the first in which stationary and general hospitals as now arranged have been made use of. Although there is no finality about anything, and there is plenty of room, no doubt, for developing and improving our methods of dealing with the sick and wounded in war, the principle of this present system is a sound one and has been generally adopted. There is no other method which leaves the general in command so free to follow out his plans untrammelled by the care of his wounded, and there is no better way of systematically stripping a battle-field of its wounded and securing prompt medical treatment, or of effecting the transit of the sick and wounded from the battle-field in front to the base, nor can the overcrowding of hospitals be better avoided. But its successful accomplishment pre-supposes that access to and from the fighting front to the base is fairly safe and free, that there is plenty of available transport, that the distance between the front and the base is not too great, and that the different kinds of hospitals are only used for the purposes for which they were intended; that, for instance, a lightly equipped mobile field hospital which has to move on with the force and is only intended for the *temporary* detention and treatment of its occupants shall not be diverted from its purpose and used as a permanent or general hospital for which it was never designed and to which it is not at all adapted. At page 5 of Part II. and again in Part III. of the report attention is called to the numerous complaints which arose from the fact that in the South African campaign field hospitals had to be used as fixed hospitals. But to resume. The view that the proper method of treating the sick and wounded is to transfer them to permanent hospitals at the rear as quickly as may be is generally regarded as a sound one. We beg our readers to bear this in mind and to carry it with them throughout their reading of everything connected with the history of this campaign. It supplies a key which opens the door to our comprehension of some of the positions in South Africa, especially, as it seems to us, in connexion with the events which followed Paardeberg. It serves to illustrate, in our opinion, that one of the great needs of modern war, and especially under such conditions as obtained in South Africa, which will have to be considered is that of a more active organisation, as far as possible, of stationary hospitals. The system of evacuation of the sick and wounded we have alluded to has been followed more or less in all wars, but it was most largely and systematically carried out by the Germans in the Franco-German war. In the case of the South African campaign 10 per cent. hospital accommodation was fixed upon, but that was, after all, a nominal rather than a real percentage. The custom of evacuation and the large and persistent relief of the hospitals by transport-ships proceeding to England were taken into account in making the calculation, and as a matter of fact an enormous number of invalids in the aggregate embarked for this country, with the effect of systematically freeing the hospitals in South Africa. The system has its disadvantages in requiring for complete efficiency to be worked in its integrity, and in causing some vicarious suffering in the transport and movement of some part of the wounded and sick for the benefit of the whole.

The ideal plan, which can only be in a measure carried out under exceptional conditions in small wars, is to carry the hospital to the wounded instead of the wounded to the hospital. But in proportion to the extent of area forming the theatre of war, the number and rapidity of the movements, the distance between the force operating in front of the base with its suitably equipped stationary and general hospitals, is the difficulty of getting the sick and wounded properly accommodated and treated. The sooner a campaign is over the better it is, of course, in every way for the army as a whole, but the harder it is for the medical service, the transport, and all supply departments. The aim should be, in order to guard against any temporary hitch, breakdown, or exceptional conditions—and the point has not been lost sight of in the report—to have, as we have said, the better equipped so-called stationary hospitals capable of being moved to the place where they are wanted; in other words, to create and to open out, where it is possible to do so, new temporary bases of operation. But where a force has to separate itself and to cut itself off from all means of communication, and where its commander is ignorant of what the morrow may bring forth, the military difficulties may obviously be insurmountable. The force can only carry the very lightest and most mobile hospitals with it, and it may altogether outmarch its

supplies. It is not difficult to apply this reasoning to the case of the campaign in South Africa; and it will form a very important subject for inquiry as to how far we can adjust the number, amount, scales, and patterns of the hospital and medical *matériel* to meet such contingencies in the future. We are of opinion that more might be done in this way.

"In the second edition of the Field Medical Service Manual for India, Section IX., General Hospitals, we read, for example, that general hospitals will be established in multiples of 50 beds, but in no case will the accommodation exceed 500 beds for a single hospital. Moreover, each general hospital with an army corps is a unit of 500 beds, but with a view of decentralising the duties it will be divided into sections of 100. It will be remembered that the use of the word "beds" is misleading, for the field hospitals, which are only intended to move with an advancing army and must therefore be very lightly equipped, have no beds, only a limited supply of stretchers. They have rapidly and frequently to evacuate their occupants. Nor have field hospitals any female nurses. (And here we may parenthetically remark as a matter of detail that where bedsteads do actually form part of any hospital equipment they might for various reasons be of less width than that of the regulation pattern, and that some carpenters with their tools would prove a very useful addition to the staffs of hospitals.) We quite agree with the Commissioners in their remarks about the present pattern of army ambulance wagons; they are altogether too heavy and too elaborate to be adapted to localities in which there are not fairly good roads. We agree also with what they say in this part of their report about the usefulness of the "E.P." Indian tent and the Ordnance Store tent for hospital purposes and with their suggestion as to the possible improvement of the hospital marquee ordinarily supplied to the British army; also in what they state about the increased employment of female nurses in *fixed* army hospitals supplemented by properly trained orderlies. The proper hospital training of military orderlies is a matter upon which we shall have something to say hereafter. We have italicised the word "fixed" because we do not consider that female nurses should accompany the fighting force to the front, and the same is, we believe, the opinion of all officers.

ANNIVERSARY DINNER OF THE MEDICAL SOCIETY OF LONDON.

THE Fellows of the Medical Society of London held their 128th anniversary dinner on March 8th at the Hôtel Métropole under the presidency of Mr. J. H. MORGAN. The interesting feature of the evening was the defence by Sir William Church of Sir William Mac Cormac and Mr. Frederick Treves from the inference to be drawn from Mr. Burdett-Coutts's remarks—namely, that on their return from South Africa they had misled the country by making laudatory speeches on the conduct of the medical departments in the campaign, when at the very time our hospitals and troops were, in the opinion of Mr. Burdett-Coutts, suffering from absolute neglect.

Sir WILLIAM CHURCH said that it was the first opportunity he had had of alluding to the Commission. He thought it would be within the recollection of most that the letters of Mr. Burdett-Coutts from South Africa had somewhat roused the attention of the country, and in those letters he had put forward that whilst members of the medical profession who had been in South Africa were making laudatory speeches on the conduct of the medical department concerned at that very time the hospitals and troops were suffering, in his opinion, from absolute neglect. Mr. Burdett-Coutts did not go so far as directly to attack Mr. Treves and Sir W. Mac Cormac for their reports which they presented to the country, but he seemed to wish the country to infer that they were seeking wilfully to mislead the country. No Commission ever undertook work with a feeling of more responsibility, no Commission ever worked so hard; it was felt that it was necessary for the country that their report should come before the country as quickly as possible. It had been stated that the Commission hurried through the work; they did hurry through their work, but they might say that though they hurried through it they did not do it badly. The Commission landed at Cape Town before 10 in the morning; all arrangements had to be made, their secretary had to negotiate for the room in which to hold meetings, and they had to fix what witnesses should be seen. In spite of all this the Commission opened at three in the afternoon of that day. For 34 days the Commission worked, Sundays and all, without cessation. He was only speaking the truth when he declared that during those 34 days they did not break off from the work of the Commission to see any sight or to see any object of interest; the only recreation which they had was that after taking evidence till about 12 30 on one day at Johannesburg they were invited to see something of the mines of the place. A few accepted that invitation, and that was the only thing in the shape of a sight or amusement that the Commissioners indulged in for the first 34 days in South Africa. Their report was divided into different heads, and the Commissioners were thoroughly convinced that up to the time and after the time that Sir William Mac Cormac and Mr. Treves left South Africa there was nothing to call in question. There had never been a campaign carried on by any country in which anything like such perfect arrangements for the sick and wounded had been in force. In the campaign up to a certain period, up to the time that the army left Modder river for the march to Bloemfontein, up to that time the care of the sick and wounded in that part of South Africa had been quite extraordinarily good, and the same, he thought, applied to the Natal side. But after the most remarkable march of Lord Roberts to Bloemfontein there was no object in concealing that the condition of affairs at Bloemfontein was most distressing and most sad. Those conditions, however, surely must always arise in war. He considered that the country was led or might have been led by the letters written from Bloemfontein to judge that these circumstances were quite avoidable, but without saying that everything was as well managed at Bloemfontein as possible, it must be conceded that a great deal of it was unavoidable if one judged fairly. Lord Roberts told them that for 14 days after he arrived at Bloemfontein he never knew whether he could feed his army or not. His first thought daily on waking was—Had he enough food to feed the army that day? For a great many more than 14 days the commissariat was never more than 12 hours ahead of the army's needs. There was no use attempting to conceal the fact that the condition of their sick was extremely distressing, but what would be the effect supposing suddenly in any one of our best managed hospitals three times the number of people were admitted than they had provision or attendance for? That was the case with the two general hospitals which were so much attacked at Bloemfontein. Now, without saying too much, it was regrettable that over these two hospitals on which the stress came it so happened the principal medical officers were less capable than were other principal medical officers whom the Commission came across. One of the two had afterwards to be removed and sent home and the other seemed not to be quite the right man in the right place. On this account the attack was made especially on Sir William Mac Cormac and Mr. Treves, as if they were wilfully misleading the country, and it was most unfair and unjust. The outbreak of fever at Bloemfontein that continued on the whole march to Pretoria was at the root of the trouble. There was no doubt that the army medical service, like the other parts of the army, was inadequate. All portions of the services were inadequate, no one had any idea of the magnitude of the task. There was no denying that many things were wanting, especially with regard to the hospitals. He would like to bear witness to the magnificent work which was done by a great number of the members of the Royal Army Medical Corps, not only the magnificent work which was done by them, but also the great powers of organisation which many of them showed. He would not mention any names, but in different places he came across men of great fitness who in extreme difficulties were obliged in important matters to exercise their own judgment entirely, to make their own arrangements, and perhaps to transgress the ordinary rules of the service. These men organised matters in such a way that the necessary suffering was, in his opinion, reduced very considerably.

Mr. TREVES delivered some remarks in a lighter vein and received a cordial reception, his happy allusion to the plain boiled sole so uniformly ordered by medical men as "that

small fish taken out of boiling water and placed in all its pallid nakedness before the sick" being one of the many good things in his remarks.

ASYLUM REPORTS.

The Western Counties Idiot Asylum, Starcross, Exeter (Report for the year ending May 26th, 1900).—The board of management in their report state that the progress of the institution continues to be satisfactory and encouraging. The number of patients in residence on Dec. 31st, 1899, was 250 and comprised 165 males and 85 females. During the year 31 children were admitted, 28 were discharged, and three died. The ages of the children admitted ranged from six to 16 years, the average being 10 years. The majority are regarded as being of a decidedly hopeful character and likely to be greatly benefited by the system of treatment and training adopted at the institution. The degree of improvement effected in patients about to be discharged varied from a slight improvement in habits and general intelligence to a fair degree of industrial efficiency, the former improvement, although apparently of slight importance, being much appreciated by the friends of the children. The manual and industrial occupations taught are as follows. The girls learn dressmaking and needlework, both plain and fancy, straw-hat making, and laundry and ordinary domestic work; while the boys are instructed in shoemaking, tailoring, basket-making, carpentering and woodwork, and the manufacture of sash-cord. Musical and military drill is regularly taught and practised. Mr. E. R. S. Lipscomb, the medical officer, states in his report that the health of the patients throughout the year has been good. There have been no diseases of the zymotic type. One case of broncho-pneumonia recovered, one of pleurisy became worse and tuberculosis was suspected as being present. Two girls developed symptoms of acute mania and had to be removed to another asylum; 35 boys and 15 girls were attacked with influenza of a mild type and all recovered. Two girls died from phthisis and one from membranous croup. The finances of the institution are in a healthy condition, there being a balance of £106 in the hands of the treasurer at the end of the year. Additional ground is being acquired and improvements are in progress as regards the arrangements for the prevention and extinction of fire.

London County Asylum, Bexley Heath (Report for the year ending March 31st, 1900).—At the beginning of the year 1899 262 male patients were housed in the female epileptic and chronic wards and by the end of February the available accommodation for male patients was utilised to the fullest extent, and 300 male patients were under treatment. Early in April, 1899, the remainder of the female wards were ready for occupation. The male patients were all transferred to new wards on April 12th, which allowed for the reception of female patients a week later into the wards which they vacated. The average number of patients resident during the year covered by the report was 704 and comprised 411 males and 293 females. During the year 1165 cases were admitted and of these 499 were males and 666 were females. Dr. T. E. K. Stansfield, the medical superintendent, states in his report that the admissions consisted mainly of patients transferred from provincial asylums and from licensed houses in the metropolis where they had been till then boarded by the London Asylums Committee. The admission and distribution of the patients formed a laborious task, and it is gratifying to be able to state that no casualty or untoward event occurred. "It would be a great boon," says Dr. Stansfield, "if when opening a new asylum one could have all new cases—i.e., recent cases; the introduction of new methods and the attempt to start from the highest rung of the ladders one has previously built is seriously hampered by the introduction of chronically institutioned patients who have been weeded out from other asylums, usually on account of their chronicity and worrying and troublesome habits." Referring only to the "recent" cases of insanity admitted during the year it appeared that intemperance in drink was the cause in 40·25 of the males and 14·2 per cent. of the females, while syphilis was considered to be the predisposing or exciting cause in 22·8 per cent. of the males and 6·6 per cent. of the females. "How easy it was for the most careful clinician to overlook syphilis is well exemplified by a case ..... which had been the subject of several conferences. ..... There was a total absence of traces externally on the body, ... the history of the case was antagonistic to it, and yet the autopsy revealed a gumma situated in the pre-frontal region which was associated with destruction of brain tissue and erosion of the skull, and a scar was found on the os uteri." The clinical features of this case were progressive dementia, the sudden onset of epileptiform convulsions, and the development of status epilepticus, followed by death. 39 males and 27 females were admitted suffering from general paralysis; of the males 31 had evidence of previous syphilis, one was doubtful, and in seven no trace could be made out. Of the 27 females 18 had undoubted syphilis, two were doubtful, and seven had no trace. In one of the females who died the necropsy revealed syphilis which had not been noted clinically. Congenital mental defect was ascertained in 18 per cent. of the male and 15·9 per cent. of the female admissions. During the year 95 patients were discharged as recovered—viz., 31 males and 64 females. One patient escaped. The total number of deaths was 78, being 11 per cent. on the average number resident. In 77 cases post-mortem examinations were made. There was no inquest during the year. A female patient was admitted under restraint wearing a long-sleeved jacket and showing many bruises and festering cuts, evidently the result of destructiveness. Her heart was in a very feeble state, and she succumbed 14 hours after admission. An outbreak of influenza occurred at the end of the year, attacking both patients and staff and handicapping the work of the institution. Five female patients admitted while pregnant were safely confined, one of twins a few hours after admission. The asylum has been lighted by electric light since April, 1899, and with most satisfactory results. Telephones, call-bells, fire-alarms, and tell-tale clocks have been fixed. The calling up of the reserve forces during the war caused a serious drain on the male staff and for a time the working of the male side was conducted with difficulty. The asylum sub-committee state in their report that owing to the limited pasturage available no cows will be kept. The sinking of a well has been completed and during the first seven months about 7,000,000 gallons of water were obtained at a cost of 2·1*d.* per 1000 gallons as against 10*d.* charged by the Kent Waterworks Company. The expenses for repairs and alterations were £2348.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6444 births and 4419 deaths were registered during the week ending March 9th. The annual rate of mortality in these towns, which had been 19·5, 21·2, and 21·5 per 1000 in the three preceding weeks, declined again to 19·5 last week. In London the death-rate was 19·3 per 1000, while it averaged 19·7 in the 32 large provincial towns. The lowest death-rates in these towns were 8·9 in Croydon, 11·6 in West Ham, 13·3 in Wolverhampton, and 13·5 in Blackburn; the highest rates were 23·6 in Manchester, 26·3 in Liverpool, 29·7 in Sunderland, and 34·2 in Plymouth. The 4419 deaths in these towns included 376 which were referred to the principal zymotic diseases, against 347, 387, and 395 in the three preceding weeks; of these 118 resulted from measles, 91 from whooping-cough, 74 from diphtheria, 39 from diarrhœal diseases, 32 from scarlet fever, and 22 from "fever" (principally enteric). No death from any of these diseases occurred last week in Brighton, Norwich, Derby, Birkenhead, or Huddersfield; the highest zymotic death-rates were recorded in Liverpool, Salford, Hull, Sunderland, and Gateshead. The greatest mortality from measles occurred in Liverpool, Leeds, Hull, Sunderland, and Gateshead; from scarlet fever in Burnley; from whooping-cough in Bristol, Wolverhampton, Hull, and Sunderland; and from diarrhœal diseases in Plymouth. The mortality from "fever" showed no marked excess in any of the 33 towns. The 74 deaths from diphtheria included 25 in London, eight in Sheffield, seven in Liverpool, six in Leeds, and five in Leicester. No fatal case of small-pox was registered last week either in London or in any of the 32 large provincial towns, and only one small-pox patient remained under treatment in the Metropolitan Asylums hospitals on Saturday, March 9th. The number of scarlet fever patients in

these hospitals and in the London Fever Hospital at the end of the week was 1746, against numbers decreasing from 2535 to 1823 on the ten preceding Saturdays; 140 new cases were admitted during the week, against 142, 162, and 185 in the three preceding weeks. Influenza was certified as the primary cause of 39 deaths in London last week, as compared with 16, 32, and 35 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 420, 493, and 501 in the three preceding weeks, declined again last week to 463, and were 97 below the corrected average. The causes of 51, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Newcastle, and in 12 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Sheffield, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·6, 23·7, and 24·5 per 1000 in the three preceding weeks, declined again to 23·4 during the week ending March 9th, but showed an excess of 3·9 per 1000 over the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 15·1 in Perth and 18·4 in Aberdeen to 25·3 in Glasgow and 25·5 in Paisley. The 733 deaths in these towns included 51 which were referred to whooping-cough, 20 to small-pox, 15 to measles, 15 to diarrhœa, six to "fever," four to scarlet fever, and two to diphtheria. In all, 113 deaths resulted from these principal zymotic diseases, against 99 and 122 in the two preceding weeks. These 113 deaths were equal to an annual rate of 3·6 per 1000, which was 1·9 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 33, 36, and 67 in the three preceding weeks, declined again last week to 51, of which 30 occurred in Glasgow, 10 in Edinburgh, six in Dundee, and three in Paisley. The deaths from small-pox, which had been 20, 15, and 12 in the three preceding weeks, rose again to 20 last week, and were all registered in Glasgow. The fatal cases of measles, which had been 25, 19, and 13 in the three preceding weeks, rose again last week to 15, of which nine occurred in Edinburgh, three in Leith, and two in Aberdeen. The deaths from diarrhœa, which had been eight, 16, and 23 in the three preceding weeks, declined again to 15 last week, and included six in Dundee and five in Glasgow. The fatal cases of "fever," which had been six and one in the two preceding weeks, rose again last week to six, of which three were recorded in Edinburgh and two in Paisley. The four deaths from scarlet fever corresponded with the number in the preceding week, and all occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 153, 177, and 184 in the three preceding weeks, declined again last week to 161, and were 98 below the number in the corresponding period of last year. The causes of 27, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 33·7 and 46·6 per 1000 in the two preceding weeks, declined again to 39·6 during the week ending March 9th. During the past four weeks the death-rate in the city has averaged 38·6 per 1000, the rates during the same period being 20·1 in London and 22·0 in Edinburgh. The 263 deaths belonging to Dublin registered during the week under notice were 46 below the number in the preceding week and included 12 which were referred to the principal zymotic diseases, against 10, 11, and 12 in the three preceding weeks; of these, 10 resulted from whooping-cough, one from "fever," and one from diarrhœa. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 1·4 in London and 4·0 in Edinburgh. The deaths from whooping-cough, which had been three, three, and five in the three preceding weeks, further increased last week to 10. The 263 deaths in Dublin last week included 33 of children under one year of age, and 101 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a decline from the numbers recorded in the preceding week. Nine inquest cases and five deaths from violence were registered; and 91, or more than a third, of the deaths occurred in public institutions. The causes of 11, or more than 4 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1901.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in each of the 29 cities and boroughs in the county of London. With regard to the notified cases of infectious disease it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·7 per 1000 of the population, estimated at 4,651,113 persons in the middle of this year. In the three preceding months the rates had been 10·0, 8·0, and 6·2 per 1000 respectively. The rates were considerably below the average in Paddington, Kensington, City of Westminster, City of London, Shoreditch, Lambeth, and Battersea; while they showed the largest excess in Fulham, Poplar, Bermondsey, Deptford, Greenwich, and Lewisham. Two cases of small-pox were notified last month, of which one occurred in St. Pancras and one in Wandsworth; one case was admitted into the Metropolitan Asylums hospitals during the month, and remained under treatment on Saturday, March 2nd. Scarlet fever showed a considerably diminished prevalence last month as compared with the five preceding months; among the various metropolitan boroughs this disease was proportionately most prevalent in Fulham, Chelsea, Holborn, Deptford, Greenwich, and Lewisham. The Metropolitan Asylums hospitals contained 1791 scarlet fever patients at the end of February, against 2659, 2460, and 1979 at the end of the three preceding months; the weekly admissions averaged 156, against 259, 214, and 164 in the three preceding months. The prevalence of diphtheria showed no appreciable variation from that recorded in the preceding month; the greatest proportional prevalence of this disease occurred in Fulham, Hampstead, Stoke Newington, Poplar, Bermondsey, and Deptford. There were 1111 diphtheria patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 1524, 1343, and 1113 at the end of the three preceding months; the weekly admissions averaged 136, against 185, 127, and 129 in the three preceding months. The prevalence of enteric fever last month showed a further decline from that recorded in the three preceding months; among the various metropolitan boroughs this disease was proportionally most prevalent in Islington, Bermondsey, Stepney, Greenwich Woolwich, and in the City of London. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 436, 403, and 299 at the end of the three preceding months, had further fallen to 224 at the end of February; the weekly admissions averaged 25, against 61, 51, and 32 in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, Stoke Newington, Bethnal Green, Stepney, Poplar, and Greenwich boroughs. The 24 cases of puerperal fever included five in Islington, two in Hackney, two in Stepney, two in Lambeth, and two in Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in the public institutions of London having been distributed among the various boroughs in which the patients had previously resided. During the four weeks ending March 2nd, the deaths of 6905 persons belonging to London were registered, equal to an annual rate of 19·4 per 1000, against 16·8, 16·2, and 17·5 per 1000 in the three preceding months. The lowest death-rates last month in the various metropolitan boroughs were 12·2 in Hampstead, 13·0 in Wandsworth, 15·2 in Lewisham, 15·6 in Hackney, 16·1 in Stoke Newington, and 16·4 in Fulham; the highest rates were 23·4 in Bethnal Green, 23·8 in Poplar, 25·8 in Holborn, 26·4 in Southwark, 26·6 in Shoreditch, and 27·4 in the City of London. During the four weeks of February 547 deaths were referred to the principal zymotic diseases; of these, 126 resulted from measles, 18 from scarlet fever, 95 from diphtheria, 216 from whooping-cough, one from typhus, 33 from enteric fever, one from simple continued fever, and 57 from diarrhœa. The lowest death-rates last month from these diseases occurred in St. Marylebone, Islington, Stoke Newington, Holborn, Finsbury, Shoreditch, and Wandsworth; and the highest rates in Hammersmith, Southwark, Bermondsey,

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING FEBRUARY, 1901.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1901.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,651,113	2	748	723	1	213	1	24	309	—	2021	5·7	—	126	18	95	216	1	33	1	37	547	1·5	6905	19·4	126
West Districts.																										
Paddington	148,148	—	27	11	—	5	—	—	8	—	51	4·5	—	—	1	3	6	—	3	—	4	17	1·5	214	20·8	148
Kensington	177,205	—	17	16	—	6	—	1	12	—	52	3·8	—	—	1	3	12	—	—	—	2	18	1·3	236	17·3	125
Hammersmith	111,213	—	21	20	—	4	—	1	10	—	56	6·6	—	—	1	4	13	—	1	—	1	20	2·3	163	19·1	141
Fulham	141,920	—	33	41	—	4	—	—	8	—	86	7·9	—	3	—	4	7	—	1	1	1	17	1·6	179	16·4	150
Chelsea	73,843	—	20	8	—	1	—	1	5	—	35	6·2	—	—	—	—	5	—	—	—	1	6	1·1	123	21·7	134
City of Westminster	189,375	—	14	10	—	4	—	1	3	—	32	2·2	—	2	1	1	10	—	1	—	1	16	1·1	291	20·0	112
North Districts.																										
St. Marylebone	140,460	—	25	22	—	3	—	—	17	—	67	6·2	—	—	2	2	5	—	2	—	—	11	1·0	212	19·7	91
Hampstead	82,605	—	15	19	—	2	—	—	6	—	42	6·6	—	—	—	4	5	—	2	—	—	11	1·7	77	12·2	88
St. Pancras	246,098	1	32	52	—	12	—	1	20	—	118	6·3	—	4	—	8	12	—	2	—	2	28	1·5	377	20·0	152
Islington	353,528	—	56	31	—	22	—	5	20	—	134	4·9	—	1	—	4	17	—	2	—	2	26	1·0	450	16·6	137
Stoke Newington	55,758	—	4	17	—	—	—	—	5	—	26	6·1	—	2	—	1	—	—	—	—	—	3	0·7	69	16·1	82
Hackney	228,417	—	32	40	—	6	—	2	18	—	98	5·6	—	12	—	2	7	—	—	—	5	26	1·5	273	15·6	100
Central Districts.																										
Holborn	59,700	—	14	4	—	3	—	1	5	—	27	5·9	—	1	—	—	—	—	2	—	—	3	0·7	118	25·8	89
Finsbury	108,590	—	18	14	—	5	—	1	5	—	43	5·3	—	1	—	2	4	—	—	—	—	7	0·9	167	20·4	95
City of London	25,289	—	1	4	—	2	—	—	—	—	7	3·8	—	—	—	1	1	—	—	—	—	2	1·1	51	27·4	59
East Districts.																										
Shoreditch	120,614	—	10	18	—	3	—	—	7	—	38	4·1	—	—	—	1	8	—	—	—	—	9	1·0	246	26·6	196
Bethnal Green	127,509	—	17	27	—	5	—	—	15	—	64	6·5	—	6	—	7	3	—	—	—	1	17	1·7	229	23·4	105
Stepney	305,058	—	37	45	—	24	—	2	28	—	136	5·8	—	3	2	4	7	—	4	—	8	28	1·2	516	22·0	120
Poplar	170,465	—	20	39	—	7	—	—	21	—	87	6·7	—	—	—	6	6	—	2	—	5	19	1·5	311	23·8	166
South Districts.																										
Southwark	208,869	—	48	35	—	9	—	1	12	—	105	6·6	—	24	2	6	14	—	2	—	3	51	3·2	423	26·4	160
Bermondsey	136,824	—	29	33	—	18	—	—	9	—	89	8·5	—	4	1	3	10	—	—	—	2	20	1·9	201	19·2	129
Lambeth	318,530	—	41	40	—	16	—	2	11	—	110	4·5	—	7	1	3	16	—	4	—	4	35	1·4	477	19·5	132
Battersea	180,017	—	27	14	—	4	—	2	7	—	54	3·9	—	1	1	—	12	—	—	—	3	17	1·2	245	17·7	125
Wandsworth	242,224	1	33	24	—	13	1	1	20	—	93	5·0	—	4	—	2	10	—	—	—	2	18	1·0	241	13·0	85
Camberwell	269,102	—	54	55	—	10	—	—	6	—	125	6·1	—	30	1	7	9	—	1	—	2	50	2·4	393	19·0	96
Deptford	113,562	—	32	39	1	2	—	—	8	—	82	9·4	—	10	1	8	7	1	—	—	3	30	3·4	193	22·2	167
Greenwich	91,228	—	23	13	—	7	—	—	10	—	53	7·6	—	4	—	2	6	—	1	—	—	13	1·9	138	19·7	90
Lewisham	112,856	—	35	14	—	4	—	1	5	—	59	6·8	—	5	2	1	1	—	1	—	5	15	1·7	132	15·2	124
Woolwich	114,106	—	13	18	—	10	—	1	8	—	50	5·7	—	2	1	6	3	—	2	—	—	14	1·6	160	18·3	111
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 14 cases of membranous croup.

† Including deaths from membranous croup.

Camberwell, Deptford, and Greenwich. The 126 deaths from measles showed a decline of 62 from the corrected average number; this disease was proportionally most fatal in Hackney, Bethnal Green, Southwark, Camberwell, Deptford, Greenwich, and Lewisham. The 18 fatal cases of scarlet fever were less than one-third of the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs the greatest proportional mortality from this disease occurred in Hammersmith, St. Marylebone, Southwark, Deptford, Lewisham, and Woolwich. The 95 deaths from diphtheria showed a decline of 78 from the corrected average; this disease was proportionally most fatal in Hammersmith, Hampstead, Bethnal Green, Poplar, Deptford, and Woolwich. The 216 deaths from whooping-cough were slightly below the average in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease showed the greatest proportional mortality in Kensington, Hammersmith, Chelsea, Shoreditch, Bermondsey, and Battersea. The 35 deaths from "fever" almost corresponded with the corrected average number; the highest "fever"-death-rates occurred in Paddington, St. Marylebone, Hampstead, Holborn, Stepney, and Woolwich. The 57 fatal cases of diarrhœa were slightly in excess of the average number in the corresponding periods of the 10 preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Hackney, Stepney, Poplar, Deptford, and Lewisham. In conclusion, it may be stated that the aggregate mortality from these principal zymotic diseases in London during February was nearly 27 per cent. below the average.

Infant mortality in London last month, measured by the proportion of deaths of children under one year of age to registered births, was equal to 126 per 1000. The lowest rates of infant mortality were recorded in Hampstead, Stoke Newington, Holborn, City of London, Wandsworth, and Greenwich; and the highest rates in Fulham, St. Pancras Shoreditch, Poplar, Southwark, and Deptford boroughs

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are announced:—Staff Surgeons: A. G. Wildey to the *Revenge;* J. H. Acheson to the *Pallas;* O. W. Andrews to the *Colossus;* R. W. Anderson to the *Medusa;* W. H. Norman to the *Caledonia;* and E. R. D. Fasken to the *President.* Surgeons: J. S. Dudding to the *Boscawen,* for the *Seaflower;* W. Bastian to the *St. Vincent,* for the *Martin;* R. W. B. Hall to the *Impregnable,* for the *Nautilus;* G. Ross to the *Boscawen,* for the *Dolphin;* H. C. Adams to the *Impregnable,* for the *Pilot;* and R. R. Horley to the *Lion,* for the *Liberty.*

Staff Surgeons J. Acheson, H. S. R. Sparrow, A. Kidd, and J. Beattie have been promoted to the rank of Fleet Surgeons.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant-Colonel Henry Walter Kiallmark, having attained the prescribed limit of age, is removed from the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Artillery: 1st City of London (Eastern Division, Royal Garrison Artillery): Surgeon-Captain H. Stedman, from the 1st Volunteer Battalion the Northamptonshire Regiment, to be Surgeon-Captain. 1st City of London (Eastern Division, Royal Garrison Artillery): Surgeon-Major F. G. Bennett, whose retirement appeared in the *London Gazette* of Oct. 18th, 1899, is permitted to retain his rank and to wear the uniform of the corps on retirement. *Rifle:* 2nd Volunteer Battalion the East Surrey Regiment: Surgeon-Lieutenant J. E. Bates to be Surgeon-Captain. 1st Herefordshire: Surgeon-Lieutenant John Jamieson Wallace resigns his commission and is appointed Second Lieutenant. 2nd Volunteer Battalion the Essex Regiment: Surgeon-Captain J. W. Cook resigns his commission. 3rd Lanarkshire: Brigade-Surgeon-Lieutenant-Colonel J. Dunlop retires, with permission to retain his rank and to wear the uniform of the corps on retirement. 1st Wiltshire: Surgeon-Lieutenant H. L. E. Wilks to be Surgeon-Captain 1st Cadet Battalion the Manchester Regiment: Acting Surgeon Israel James Edward Renshaw to be Surgeon-Captain. 2nd Volunteer Battalion the Prince of Wales's (North Staffordshire Regiment): Frederick Nesfield Cookson to be Surgeon-Lieutenant.

VOLUNTEER MEDICAL STAFF CORPS.

The Glasgow Companies: Surgeon-Captain J. B. M. Anderson resigns his commission.

SOUTH AFRICAN NOTES.

Lieutenant Taylor, R.A.M.C., has slightly improved (Howick, March 9th). Civil Surgeon Bruce is progressing favourably and is out of danger (Newcastle, March 8th). Civil Surgeon O'Reilly is reported out of danger at Kimberley.

Lieutenant-Colonel J. D. Day, R.A.M.C., Lieutenant J. J. W. Prescott, R.A.M.C., and Civil Surgeon H. S. H. Callum have been discharged from hospital to duty.

DEATHS IN THE SERVICES.

Surgeon-Major Daniel Paterson Barry, M.D. St. And., A.M.D. (retired), at Tunbridge Wells, on March 3rd, aged 75 years. He entered the army in 1846, became Surgeon in 1854, Surgeon-Major in 1866, and retired in 1867. He served with the 1st Battalion, 60th Rifles in the Punjab campaign of 1848–49, and was present at the siege of Mooltan, and at the battle of Goojerat (medal with two clasps). In the Crimea he was at the battle of Tchernaya and the siege and fall of Sebastopol (medal with clasp and Turkish medal). With the 97th Regiment he served during the Indian Mutiny campaign of 1857–58, and was present at the siege and capture of Lucknow (medal with clasp).

Surgeon-General Albert Augustus Gore, C.B., Army Medical Staff (retired) on March 11th, at his residence, Dodington-lodge, Whitchurch, Shropshire, aged 61 years. He joined the Army Medical Staff as assistant surgeon in 1860, and served with the 16th Lancers. In West Africa he was at the bombardment and destruction of the Timmance town of Massougha on the Sierra Leone river on Dec. 10th, the attack on Madoukia on Dec. 27th, and the storm and capture of the stockaded fetish town of Robea on Dec. 28th, 1861 (mentioned in general orders for his services and for conspicuous bravery and specially recommended for promotion). In the Ashanti war of 1873 he acted as sanitary officer and was severely wounded in the action of Nov. 3rd near Dunquah, and was also wounded at Quarman on Nov. 17th (medal). It fell to the lot of the late Surgeon-General Gore, whilst Surgeon-General of Her Majesty's forces in India, to organise and make all the medical arrangements for the Chitral expedition and for the very large force from the North-Western frontier under the late Sir William Lockhart—the latter being a task which must have entailed a vast amount of work and responsibility. We were enabled to furnish our readers, it will be remembered, with full information at that time in regard to those arrangements and as to the sick and wounded, the hospitals, and many other interesting details. The late officer was a very hard-working, conscientious man with an unusual knowledge of military detail.

Deputy Surgeon-General Thomas Murray, I.M.S. (retired), at Upper Norwood on Feb. 15th. He joined the Bombay Army on March 7th, 1846, and retired July 31st, 1876, and served in the 10th Regiment, Bombay Light Infantry, from 1851 to 1876, and was present with it at the assault and capture of Kotah in March, 1858, by the force under the command of Major-General Roberts; during the operations of Brigadier Smith's Brigade in Central India, and present at the battle of Kotah-ke-Seral, June 17th, 1858; at the capture of Gwalior on June 18th, by the force under Sir Hugh Rose; at the siege and capture of Powree in August, 1858, by the field force under Brigadier-General Robert Napier, and acted as senior medical officer with the flying column under Lieutenant-Colonel Robertson in the subsequent pursuit and defeat of the rebels at the action of Beejapoor; with Brigadier Smith's brigade in Central India during the pursuit of the Gwalior rebels under Tantia Topee and Maun Sing; present at the action of Koondrye on Nov. 14th, 1858; also at capture of Magdala in 1868 by the force under the command of General Sir Robert Napier.

THE WAR IN SOUTH AFRICA.

The number of cases of plague at Cape Town is slowly but surely increasing, we are sorry to say. Since its first outbreak on Feb. 7th last there have been altogether about 100 cases with, it is stated, some 30 deaths. Parts of Cape Town are very much overcrowded and some

of the worst districts are very bad indeed, although a good deal has been done to cleanse and improve them. Considering that Cape Town is the nearest and most convenient port, the outbreak of plague there is, even apart from other serious considerations, likely to prove a source of much embarrassment under present circumstances. As regards the war there are persistent rumours, for which there seems this time to be official grounds, that General Botha is endeavouring to arrange terms for the surrender of his force, and there are signs in other directions that the foundations of the Boers' resistance are being roughly shaken. The time has come, as we have already said, when the Boers must fight to live instead of living to fight as they have hitherto done. The sweeping method of procedure now being systematically carried on by the British forces clears the country of its supplies of horses, vehicles, and supplies, while the huge captures of Boer convoys with cattle, horses, food, and munitions of war, must have told very seriously indeed on their resources. The collapse of the scheme of invasion of Cape Colony and the persistent pursuit of De Wet and his forces cannot fail to have a disheartening effect on the Boers. There does not seem much room for doubting that altogether the news from South Africa is more favourable.

The progress of active military operations has been greatly interfered with by the bad weather and heavy rains which have been prevalent of late. The casualty returns still give sad lists of sickness and losses (mostly from enteric fever) in addition to those shorter lists attributable to wounds and injuries.

MENTIONED IN DESPATCHES.

The following paragraph appears in a despatch which has been received by the Secretary of State for the Colonies from Colonel Sir J. Willcocks, dated Cape Coast Castle, Dec. 25th, 1900:—"The various departments of the field force have been well administered. The medical, under Dr McDowell, principal medical officer, in my opinion has been as near perfection as was possible in such a country. He was given an absolutely free hand and nothing that was asked for or wanted was ever refused. The supplies from England have been sent out so promptly and in such a generous spirit that it was the universal opinion that no force in the field could have been better treated."

The following officers are mentioned as having done very good work:—Dr. W. Murray, Gold Coast Medical Service; and Dr. D. Gray, British Central Africa Medical Service.

The following are excerpts from despatches which have been received from Vice-Admiral Sir Robert Harris, K.C.M.G., Commander-in-Chief on the Cape of Good Hope Station, reporting the proceedings of the Naval Brigades in South Africa:—

"Surgeon James G. Fowler has been most assiduous in his attendance and duties towards the sick."

"Staff Surgeon Lilly and Surgeon Lomas were indefatigable, and on the spot instantly to attend our wounded under an exceedingly hot shell fire."

"Fleet Surgeon James Porter of H.M.S. *Doris*" (also specially mentioned for excellence of medical arrangements), "for the efficiency of the arrangements for attending the wounded with the limited staff at his command."

Major William Grant Macpherson, R.A.M.C., and Lieutenant-Colonel George Sterling Ryerson, M.D., are among the recently made Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England.

A SANATORIUM FOR WALTHAMSTOW.—A new sanatorium, erected by the Walthamstow Urban District Council at a cost of £30,000, was formally opened at Chingford on Saturday last by the chairman of the Sanitary Committee of the Council. The buildings, which are beautifully situated on the borders of Epping Forest, occupy a site of about five acres and consist of an administrative block and three pavilions. Each of the latter provides accommodation for 14 beds, together with nurses' rooms, bathrooms, lavatories, and discharging rooms. There is also a smaller pavilion for doubtful cases. Mr. J. J. Clarke, medical officer of health to the Council, made a short statement as to the future administration and work of the sanatorium and said that the staff would consist of a resident medical superintendent, matron, assistant matron, three charge nurses, and four probationers.

Correspondence.

"Audi alteram partem."

THE DUTIES OF HOUSE SURGEONS AT THE EAST SUFFOLK AND IPSWICH HOSPITAL.

To the Editors of THE LANCET.

SIRS,—My colleague, Mr. C. C. Worts, and I yesterday received six weeks' notice of the termination of our engagements as house surgeons here under circumstances which seem to us gravely to affect the honour of the profession. It concerns the relations of house surgeons to the press. It has been for some years here the custom for the inclosed form to be filled in and handed in the evening to reporters.

[INCLOSURE.]

EAST SUFFOLK AND IPSWICH HOSPITAL.

ACCIDENT ADMITTED.

Date .....
Name .....
Address .....
Occupation, etc. .....
Place and time of injury .....
.....
.....
Nature of Accident .....
.....
.....
.....
Signed
.....
House Surgeon.

When we came into office some weeks ago we refused to follow out that custom on the ground that it lay with the patient only or his nearest relatives to decide what information, if any, was to become public property. A house surgeon is not in a position to know whether any information would or would not be prejudicial to a patient. Even the knowledge that a man has had a broken leg might hinder him again getting employment in certain positions. It is our duty to give the patient's family information about him, and to them we referred the reporters. We take our stand on the principle that it is unprofessional conduct to give the press information, as a general rule at all events, and we also regard it as highly inexpedient in these days of Employers' Liability Acts and insurance to give such information. Some time ago Mr. Elkington, the editor of the *East Anglian Daily Times*, called on my colleague and demanded that we see his reporters, saying "A daily paper must be run." Mr. Worts said he would not stand in the way of his getting any information as he best could legitimately, but that we would give none ourselves. The editor is a member of the weekly board of this hospital. On Feb. 20th we were called up to the weekly board and the following resolution was read to us:—

> That the house surgeons be instructed to give such information to the press with reference to accident cases as may be reasonable and sufficient in accordance with precedent.

Moved by Mr. Fosdeck, seconded by Dr. Casley. We refused to obey the resolution or to resign and were then told that a letter of dismissal would be sent to us.

Now, by their own rules (which I inclose), Nos. 22 and 77, the weekly board, not being specially summoned, were exceeding their powers both in making a new rule and in dismissing us. However, next week, on Feb. 27th, a specially summoned meeting of the board of management was held to discuss our dismissal, and if deemed advisable to dismiss us. We were not summoned. The meeting was adjourned for a week. Meanwhile, on March 4th, the medical staff met together, Dr. Casley alone being absent, and they unanimously resolved that our attitude was ethically correct. They also suggested that we be asked to give information to the press after asking the patient's permission. On March 6th the resolutions of the staff were read to the board, but were ignored as irrelevant. The resolution dismissing us was passed by a majority of ten; only four voted against

it—viz., Dr. W. A. Elliston (President of the British Medical Association), Dr. T. Warner, Dr. W. W. Sinclair, and Mr. Felix Cobbold (president of the hospital). Dr. Casley voted for the resolution. Mr. Branford Edwards, Dr. R. W. Brogden, Dr. H. H. Brown, and Dr. F. Ward were present but did not vote. Later we were served by the secretary with six weeks' notice, no reason being given for our dismissal.

Now, even if our view of the ethics of the question be regarded as unduly strict—though I do not for one instant assent to that—still it would have been easy for the board to have arranged for information to have been given to the press by the secretary or some other official. To dismiss us is as unnecessary, even from their point of view, as it is unjust from any point of view. I am confident that I am fully justified in placing the matter before the profession and in asking for the support of THE LANCET.

I am, Sirs, yours faithfully,

RICHARD KAY, M.B. Lond.,
Senior House Surgeon.

March 7th, 1901.

*** Dr. Kay and Mr. Worts have acted throughout in accord with medical ethics. We trust that the board will reconsider their action and will suppress all personal feelings in dealing with the matter. The question is not only what is fair to the house surgeons or due to the press. The interests of the patients must be put first. We deal with the matter in a leading article.—ED. L.

"THE STATISTICS OF GASTRIC ULCER, WITH SPECIAL REFERENCE TO GASTRIC HÆMORRHAGE, ITS FREQUENCY AND FATALITY."

To the Editors of THE LANCET.

SIRS,—In my address on Gastrorrhagia before the Medico-Chirurgical Society of Edinburgh, in attempting to elucidate the difficult question of treatment I thought it desirable to make use of the statistics collected by well-known authorities: (1) on the frequency of gastric ulcer; (2) on its fatality; (3) on the frequency of gastrorrhagia; and (4) on its fatality. From these statistics I hoped to show the importance of the subject and to deduce conclusions that would help to make the subsequent discussion useful.

Dr. Byrom Bramwell, in a clinical lecture published in THE LANCET of March 9th, p. 687, states that these conclusions are not in accordance with his own experience, and he objects to the method of taking the mean of the figures given by the various authorities whose statistics are made use of, and also to some of the statistics which were published about 40 years ago and which, I would mention, have become classical and are accepted by all authorities on the subject to-day. I fully agree with Dr. Bramwell as to the difficulty of basing arguments on a statistical foundation, for objections can generally be raised against all statistics; but it seemed to me that the questions I was considering were such as could only be settled on statistical evidence, and by using only those statistics approved of by everyone who has written on the subject, and in taking the mean of the figures, I thought I was adopting a basis for my arguments almost above criticism.

It will be more convenient to take each set of statistics separately.

1. *As to the frequency of gastric ulcer.*—The usual estimate accepted by all authorities is that 5 per cent. of the whole population suffer at some period of their lives from simple ulcer of the stomach. In 32,052 necropsies collated and analysed by Welch, ulcers or scars caused by them were found in 4·7 per cent., but Dr. Bramwell raises objections to the post-mortem method of estimation—(1) because all open ulcers are not found; (2) because cicatrices of former ulcers are often missed; (3) because superficial ulcers probably do not leave a cicatrix when they have healed; and (4) because some of the scars found may be due to other causes than ulcer, such as syphilis, tubercle, &c.; but as Dr. Bramwell does not press the last objection we will omit it from the argument, for it is well known that other causes (than ulceration) of cicatrices in the stomach are very rare indeed.

I heartily concur in these three objections, but surely they only make the position all the stronger, and one naturally asks the question—If 5 per cent. of ulcers or cicatrices are positively found in all necropsies, how many more must escape observation, and how much does 5 per cent. underestimate the frequency of gastric ulcer?

Dr. Bramwell next objects to the statistics of British hospitals, so far as gastric ulcer is concerned, being compared with certain German hospitals where exact observations have been made and noted in the post mortem rooms for many years. Of course, it does not follow that the same percentage of cases occurs in British hospitals, but it remains to be proved by an equal number of careful observations that this is not the case before Dr. Bramwell's opinion on the subject can have the same weight as that of those great authorities whose estimates have hitherto been accepted by all who have written on the subject. The frequency of gastric ulcer in the community outside hospitals must always be a difficult matter to settle, as its estimation depends so much less on exact post-mortem evidence and so much more on clinical observation, to which Dr. Bramwell justly raises objection; but, if I may judge by my own experience, I have had a far greater number of *private* than of *hospital* patients sent to me for an opinion with regard to the surgical treatment of gastric ulcer. This, however, is no more a proof of the greater prevalence of gastric ulcer in the well-to-do than is Dr. Bramwell's opinion as to gastric ulcer being less frequently found in this class of patient, his opinion, so far as I can gather, being based chiefly on clinical evidence to which he has so much objected. Autopsies or biopsies afford us the only absolute proof of ulcer of the stomach, and without such proof there must always be uncertainty. I can see no need, therefore, to alter the numbers which, for making the importance of the subject more tangible, I applied to the population of a city like Leeds, which, for convenience' sake, I took at 500,000, though Leeds itself has actually only a population of between 400,000 and 500,000.

2. *The total mortality from gastric ulcer.*—I was very much astonished to find Dr. Bramwell making use of the Registrar-General's returns for the purpose of disproving the statistics I quoted, and I should like to ask if Dr. Bramwell really seriously argues that the Registrar-General's return of deaths from gastric ulcer can be pitted against the statistics of such able physicians and keen observers as Brinton, Welch, Dreschfeld, Habershon, Müller, Lebert, Tricomi, and others? How about the classification of subphrenic abscess, acute peritonitis, localised abdominal abscess, intervisceral fistulæ, gastric dilatation, general atrophy, marasmus, anæmia, and phthisis (of stomach origin) and ulcus carcinomatosus, to say nothing of many other diseases ending in death which should have recorded as their first cause ulcer of stomach? I see that Dr. Spottiswoode Cameron has even pointed out to Dr. Bramwell one or two of these sources of fallacy. I do not think, therefore, that if, as Dr. Bramwell says, 17 deaths were reported as due directly to gastric ulcer and six to hæmatemesis in Leeds last year, it will be far from the mark to say that three or four times as many would be likely to die directly or indirectly from the complications due to the same disease.

The difference in the views of various authorities who give the rate of mortality in all cases of ulcer as varying from 10 to 50 per cent. is really a question of the inclusion or not of the cases dying indirectly from ulcer, for if they are included—and to my mind they should be—the mortality is much greater than the profession at large really grasps and than Dr. Bramwell acknowledges. The subject rather reminds me of arguments that were used a few years ago when it was not unusual to hear it said that deaths never occurred from appendicitis, but I never hear that argument used now; and, with regard to ulcer, it only requires time to prove that the figures I have employed will not be far from the truth.

3 & 4. *On the frequency of gastrorrhagia and its fatality.*—Dr. Bramwell should really be careful before he accuses anyone of making a serious error, especially when he pits his individual experience and opinion against the experience of the authorities quoted from and whose statistics I will again repeat: "Müller, 11 per cent.; Welch, 3 to 5 per cent.; Brinton, 5 per cent.; Debove, 5 per cent.; Steiner, 6·36 per per cent.; Lebert, 3 per cent.; Dreschfeld, 3½ per cent.; and Rodman, 8 per cent."; these numbers representing percentages of fatal hæmatemesis in bleeding ulcers. As different authors estimate the percentage of hæmatemesis in all cases of gastric ulcer somewhat differently it is difficult to classify them on the same lines. I have therefore adopted purposely a low estimate in saying that 50 per cent. of all cases of ulcer of the stomach suffer from gastrorrhagia and

have made a low estimate of the mortality in saying that 7 per cent. of deaths in cases of gastrorrhagia from ulcer will not be far from the truth.

In order to make my position clear I said in my address: "If this is worked out in the 50,000 population of a city *like* Leeds [Leeds, as I said before, does not reach 500,000; this is a mere quibble on the part of my friend] it means that of the 25,000 persons who have or have had ulcer, 12,500 suffer from hæmatemesis and of these 7 per cent., or 875, die." If this be further worked out, even on Dr. Bramwell's lines of excluding children under the age of five years, it will mean that 22 persons die annually from gastrorrhagia in a city of 500,000 inhabitants, and in spite of Dr. Bramwell's criticisms and quotations from the Registrar-General's reports, I believe that this is, if anything, an under-estimate of this serious accident. To show that my views are supported by a physician whom I feel sure that Dr. Bramwell will acknowledge is an authority on the subject, I will quote from Dr. Fenwick's work on "Ulcer of the Stomach" published in 1900, p. 50:—"Hæmorrhage from the stomach is a frequent cause of death in gastric ulcer. Out of 112 fatal cases recorded at the London Hospital, 18, or 16 per cent., died from hæmatemesis, while in another series of 298 necropsies on gastric ulcer we find that fatal hæmorrhage occurred in 56 cases, or in 18·8 per cent."

Dr. Bramwell, in speaking after I had given my address, remarked that "he had never, so far as he remembered at present, seen a fatal case of hæmorrhage from a simple gastric ulcer," yet when he wrote his lecture a few days later he was able to call to mind two fatal cases. Perhaps if Dr. Bramwell could ascertain the after-history of some of the other cases he has seen in consultation he might possibly find an even greater mortality. Surely the difference in Edinburgh and in London cannot be so great as is shown in the passage I have quoted from Dr. Fenwick and the statements made in Dr. Bramwell's lecture.

I am sorry to trouble you with such a long letter, but out of justice to myself as well as from the interest I take in the subject, I have felt it necessary to try to show that the dangers of gastric ulcer and of its complication, gastrorrhagia, are both as frequent and as serious as I stated in my address, and the only apology I have to make is to those eminent authorities whose figures I have in some cases almost halved in order to state my views with moderation.

I am, Sirs, yours faithfully,

March 12th, 1901. A. W. MAYO ROBSON.

To the Editors of THE LANCET.

SIRS,—I find that there are two mistakes in the figures in my paper on the Statistics of Gastric Ulcer in THE LANCET of March 9th, p. 687, which perhaps you might kindly insert a note correcting.

On page 690, second column, 14 lines from the bottom, instead of 49·87, read 76·92; and on page 691, second column, 14 lines from the top, instead of 413,287 read 431,287.

I am, Sirs, yours faithfully,

March 12th, 1901. BYROM BRAMWELL.

"THE CURATIVE TREATMENT OF MICROBIC DISEASE."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 4th, 1900, p. 350, you published a letter of mine on a method of treating microbic diseases. I am now in a position to state that since that date some 30 or 40 animals (sheep) suffering from a peculiar febrile disease known as "heart-water," from the effusion of liquid into the pericardial sac, have been cured by the method I advocated then and also as early as 1890.[1] There have been only three deaths, which is very gratifying, as the usual mortality varies from 50 to 60 per cent., or even more, from this disease. My curative method consists in, first, thoroughly bleeding the sick animal (about 15 ounces) and then injecting subcutaneously about eight cubic centimetres of defibrinated blood obtained from a recovered animal.

Now, there are at least three diseases which occur in the human subject—viz., pneumonia, bubonic plague, and typhus fever—in which I believe this method of bleeding, does good. It must be followed by the injection of the appropriate serum for the two first-mentioned diseases—viz., Yersin's serum for plague and Klemperer's serum for pneumonia, and recovered blood from a healthy subject (after typhus) for the last-mentioned disease. A serum obtained from the horse would be preferable, but as yet it is not obtainable. The blood of a fever patient, and in case of his death splenic emulsion (in salt solution), may be tried for inoculating a horse in order to obtain an antitoxic or antimicrobic serum for this disease (typhus fever) which is so fatal in certain parts of Ireland, Scotland, and the North of England. The amount of bleeding to be at all serviceable should not be less than 10 ounces (15 ounces would be about the usual quantity for an adult). The object of this free bleeding is, of course, to remove as much of the toxin (and germs?) as possible. A medical friend of mine who has had great experience of typhus fever at home tells me that he has noticed that in almost all cases of bleeding (e.g., epistaxis) the crisis has been hastened and the patients have made a good recovery.

I am, Sirs, yours faithfully,

GEO. CARRINGTON PURVIS, M.D. Edin.

Grahamstown, Cape Colony, Feb. 9th, 1901.

[1] THE LANCET, Dec. 20th, 1890, p. 1354.

OTORRHŒA AND SCHOOL BOARD CHILDREN.

To the Editors of THE LANCET.

SIRS,—The number of cases of otorrhœa and its consequences that come under our care in the out-patient department is very great and, according to my experience, now extending over 25 years, the numbers do not decrease. It seems a pity that something cannot be done to check this disease. Recognising that the School Board now gets hold of these children at an early age I wrote to the clerk of the Board suggesting that some scheme might be arranged by which the ears of the children might be examined when they first enter the schools and then perhaps once a term afterwards. I pointed out the dangers they ran and the offensive condition which many of them were in. The Board, however, refused to consider the subject and their medical officer, to whom I likewise wrote, replied that he could do nothing in the matter. I cannot help thinking that it is most important for the future well-being of these children that some check should be put to the ravages of otorrhœa and I am sure that if you and other medical journals will give your powerful aid an immense amount of good may be done. It seems to me that the School Board is the best authority through which to work, as practically all the children pass through their hands. No other authority could with so little trouble, expense, or "interference with the liberty of the subject" give so much assistance in checking this disease. The eyes of the children are now examined with great benefit. Why, then, should not the ears be done so too? They are certainly equally important.—I am, Sirs, yours faithfully,

W. R. H. STEWART, F.R.C.S. Edin., &c.,
Surgeon to the Ear and Throat Department, Great Northern Central Hospital; Consulting Surgeon, London Throat Hospital.

March 12th, 1901.

AUSTRALIAN WINES.

To the Editors of THE LANCET.

SIRS,—An analytical report was published in THE LANCET of Sept. 29th, 1900, p. 949, upon samples of Australian wines. The report appears to have been based upon the assumption, a postulate I believe very generally accepted, that wine cannot in natural fermentation produce more than about 24 degrees of alcoholic strength, and that any excess of that strength indicates *per se* the addition of spirit. Dealing with the subject in its broad sense, I hope to show that this theory applied to wines grown in Australia is fallacious. My personal knowledge of Australian wines extends over 30 years, during which many millions of gallons have passed under my observation; though my firm do not analyse the wines they grow or purchase they know them to be perfectly pure as nature produces them, although many growths exceed the strength of 24 degrees proof spirit.

So far back as the year 1874, in examination before the Royal Commission of the House of Commons, I was able to produce evidence, supplied by the South Australian Government, proving that three analysts in that colony had obtained from the same grapes, supplied by that Government, strengths up to 35 degrees, and that Sir Samuel Davenport had produced on the "Beaumont Vineyard" a wine showing 20·743 degrees alcohol by weight, equivalent to 44·522 degrees proof spirit. Upon such evidence the Royal Commission recommended that the standard for natural wines should be

raised from 26 to 30 degrees, at which it stands to-day. It has been usual to allow the grapes to remain longer on the vines in Australia than in European vineyards, and thus, becoming thoroughly ripe, they yield less *must* or juice, but more saccharine. So large is Australia, and its climate and soil are so varied, that every grade of wine, from the light Chablis with 21 degrees of proof spirit to Constantia of 44 degrees, can be produced; the aspect and altitude, and in no less a degree the particular kinds of the vine grown, bear a large share in the result. One well-known very free-bearing red grape yields, I believe, in some seasons as much as 800 gallons per acre. The wine from it is thin, poor, hungry stuff; it arrives at its maturity in three years and then often "goes to pieces." It has a strength of about 21 degrees of spirit, and some Australians flatter themselves it is claret, but clarets are obtained from different grapes altogether, and claret vines produce in Australia another style of wine. I have such before me now grown on a vineyard of my own in the warm district of Rutherglen. The grapes were allowed to remain on the vines till thoroughly ripe; the resulting wine has 28 degrees spirit, is somewhat sweet, and of most delicious flavour. That no spirit was added to it is beyond question; there was no still on the vineyard, and the rules of the Excise prohibit the transfer of spirit between vineyards.

In England, as elsewhere, tastes are constantly changing, and this may be affecting the claret trade now, for during the past year the imports from France have fallen off 594,570 gallons. It is evident, therefore, that however elegant the light wines from France may be the public taste at present favours wine with more substance. As Australia is able to produce these robust wines, which the public by the increasing yearly imports prove they are favouring, it is, I think, a pity that an impression should be conveyed to your readers that the generous quality which these Australian wines exhibit is the result of adventitious spirit; this, I fear, was the idea your article conveyed, based, as I have said, on exploded theories.

In France and Germany the grapes are gathered before they are dead ripe; were this not so it would be at the expense of bouquet, besides which the fermentation to complete attenuation might be frustrated, and the dry wine known as claret could not be obtained. In Australia it is natural to produce big wines; the fruit being allowed to come to maturity the aqueous particles become in a measure evaporated, and the result is such stout Burgundy as was thought impossible before Australian wines were known. As instance of the heat in the colonies and its effects on the vines, the leaves are allowed to remain on the branches so as to protect the bunches from the sun, whereas in France and Germany the leaves are thinned, and indeed the vine is sometimes trained on trellises capable of being moved at any angle, so as to obtain all the sun possible, as well as the heat radiated from the ground.

Australian wines should not be compared with those of France and Germany more than with those of Spain, Portugal, or Sicily. For, on the one hand, in the warmer climates more sugar is produced with more spirit and weight of wine; on the other, in the more temperate climates lighter wines, more elegant perhaps but colder, are the result. If, then, the English public continue the taste for light, thin, dry wines, I know no country that can supply them finer than France or Germany. But if the taste, as I am led to believe, is for the more generous product of fully ripe grapes, there is no country in the world can supply the want better than our own possessions.

It has been the endeavour of Australian wine-growers to put on the market that which Australia can best produce—viz., a natural robust wine filling the gap between the light wines of the continent and fortified wines. To quote the remark of a writer in the *Standard*: "Australian wines abound in memories of the sun that begot them and, like the wines of the ancients, will bear mixing with water."

I am, Sirs, yours faithfully,

Feb. 25th, 1901. P. B. BURGOYNE.

*** We refer to this letter in an annotation this week.—ED. L.

THE VALUE OF SALINE ENEMATA.

To the Editors of THE LANCET.

SIRS,—I have read with great interest the very sensible article in THE LANCET of March 9th, p. 720, on the Value of Saline Enemata in Collapse and in Uræmia and Puerperal Eclampsia. Allow me to call your attention to another class of cases in which I have found them very useful. I refer to cases of gastric ulcer in which (not necessarily due to large hæmorrhage) there may be subsequently extreme weakness and debility, sleeplessness, &c., if not actual collapse. This is due, no doubt, largely to abstinence from food by the mouth, rectal feeding being only a poor substitute for natural alimentation. In such cases saline injections at 100° F., in quantity (say half a pint) sufficiently small to be readily retained, have been frequently given to a case of gastric ulcer, now nearly recovered, in which the return of refreshing sleep (after much restlessness, nausea, &c.) at once took place after the first injection. A like result was noticed later and the injections were repeated.

I am, Sirs, yours faithfully,

Chepstow, March, 1901. J. CROPPER, M.B. Cantab.

HYPERTROPHY OF THE LINGUAL TONSIL.

To the Editors of THE LANCET.

SIRS,—In a deservedly favourable notice of Dr. Escat's "Maladies du Pharynx" in THE LANCET of March 9th, p. 711, the reviewer writes that, "like too many observers Dr. Escat looks upon hypertrophy of the lingual tonsil from the point of view that the condition is the disease, whereas it is a local manifestation of a more general disturbance." This is not quite the view held by Dr. Escat as I read him, but if there are "too many observers" of his way of thinking does it not suggest that there are but few who think differently?

I am, Sirs, yours faithfully,

March 12th, 1901. LENNOX BROWNE.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Inoculation for Rinderpest.—Great Increase of Plague.—The Admission of Natives to the Indian Medical Service.—The Water and Milk-supply of Indian Cities.

A REPORT has recently been issued by Dr. A. Lingard showing the results of inoculation against rinderpest during the past year. The process has been carried out at several places with marked success. The method of protection adopted is to inject a small dose of the protective serum on one side of the body and at the same time a small dose of virulent rinderpest blood on the opposite side. Reaction follows in 90 per cent. and this gives practically permanent immunity. In about 10 per cent. no apparent reaction occurs although it is found that the cattle possess some immunity which lasts for a few months. In these latter instances a subsequent re-inoculation with from 1 to 10 cubic centimetres of virulent blood about 10 days later produces the usual reaction and confers the required lasting immunity. It is found that the hill cattle react differently to those of the plains, the former requiring much more frequently the subsequent re-inoculation with virulent blood. The use of the protective serum alone causes no reaction, but yet affords a temporary immunity. This is sufficiently lasting to afford protection during an epidemic and it is therefore particularly applicable for milch cows when it is not desirable to interfere with the milk-supply, and it is also useful in the case of pregnant animals which under the disease itself, whether artificially or naturally acquired, are liable to miscarry. An instance of an outbreak in Madras is given where 339 bullocks were inoculated. The disease was at once checked, and it is almost certain that a heavy loss among the cattle was averted. During the year no less than 464,765 cubic centimetres of protective rinderpest serum were manufactured. A large stock ready for immediate despatch is kept at the laboratory, and in addition a further large stock only requiring a fortnight's time for being tested.

Close upon 6000 deaths from plague took place in India last week. The week before there were 4377 deaths, and in the corresponding week of 1900 only 2597 deaths. The great increase is chiefly in Bengal which returns 3846 deaths—a rise of 1200 over the preceding seven days. The worst districts are Patna (with 1634 deaths), Saran (828 deaths), Monghyr (526 deaths), and Gaya (475 deaths). Calcutta returns 233 deaths—nearly double that of the week

previously. Other districts in Bengal are becoming affected, cases having been reported from Hazaribagh, the Sonthal Parganas, Manbhum, Palaman, Mozaffarpore, Bhagulpur, 24-Parganas, Howrah, and Hooghly. The epidemic is also increasing again in the Bombay Presidency where a rise of 300 deaths is reported. The city of Bombay returns 923 deaths, an increase of 137 over the previous week. Other places in this province still infected are Belgaum (with 226 deaths), Dharwar (44 deaths), Thana (143 deaths), and Surat (24 deaths). The Mysore State returns 267 deaths, the Madras Presidency 124 deaths, and the Punjab 55 deaths. During the past week a fresh development has occurred on the Kolar Goldfields, and the threatening at Karachi reported last week shows that the disease has taken a hold of the city once more. The general mortality in Calcutta is again mounting up. There were 264 cases of plague reported with 233 deaths. It is to be noted that there are now no suspicious deaths reported. This system is more in conformity with the returns of other places and is doubtless required for political purposes. At the same time there continues to be, as there always has been, a certain number of deaths about which considerable doubt must exist, and the return of suspicious deaths is more satisfactory in a medical and scientific point of view. Since the above figures were published it is understood that the daily returns show a still further plague mortality, but the disease is chiefly confined for the present to the northern half of the city.

The general mortality in Bombay city is also mounting up and has now reached a rate of 128·26 per 1000 per annum. The total number of deaths during the past week was 2074—an increase of 133 over that of the previous week. The number of births remains about the same as during the corresponding period of last year, suggesting that the population continues about the same in amount. Other diseases formerly prevalent having decreased the rise of mortality must be more definitely attributed to plague.

Agitation is repeatedly being made to open the portals of the Indian Medical Service to native men qualified with Indian degrees. What the leaders of this movement want is a competitive examination for the Indian Medical Service to be held in Calcutta and open to holders of Indian degrees. In consequence of the shorthandedness of the service the Government have recently offered 20 temporary vacancies to men who hold British qualifications, but it is very doubtful whether any candidates will come forward on the terms offered. This offer is not at all what the memorialists want, and it is, in my opinion, absurd to compare an Indian degree and education with those obtained in the British islands. The feeling in the service is that there are too many natives in it already, so that any further concession in this direction would be undoubtedly unpopular.

Some startling figures recently published show that in almost all the larger cities of the North-west Provinces and Oudh, including Cawnpore, Allahabad, Benares, Meerut, and Agra, the annual death-rate has been heavier since the introduction of a filtered water-supply than in the years preceding its introduction. The mortality of other cities in India has increased rather than decreased under similar circumstances. It is obvious that unless a proper system of surface drainage exists with a regular water-supply the soil must become more or less saturated. Colonel G. M. J. Giles, I.M.S., is disposed to attribute some of the increase to the greater prevalence of malaria due to the formation near every water-tap of pools which he has found to be congenial breeding-places of anopheles. The observations of Captain L. Rogers, I.M.S., on the prevalence of malaria in villages adjoining the city of Calcutta may perhaps be explained in the same way.

The Government of India have recently published an interesting note on the milk of cows and Indian buffaloes. This is based on the work of Dr. Leathes, and states that the milk of the Indian cow corresponds very closely to that of the English one, but in the milk of the buffalo the proteids are in higher proportion and the lactose is in lower proportion than in cow's milk. Buffalo's milk usually contains much more fat also. The mineral matter is about the same. The supervision of the milk-supply of the large cities in India is very unsatisfactory. Some attempt at it has been made in Bombay city, but there is absolutely no control over the large quantity brought in from the surrounding districts and there is no systematic examination of milk to detect adulteration and disease germs. From the filthy habits of the natives and their carelessness in the use of foul water it is obvious that dirty milk of poor quality must be very largely consumed. The effect of this on the general health, especially of children, must be disastrous. The conditions which obtain in Bombay apply to other cities.

The improvements being made in Bombay city have evidently awakened the authorities in Calcutta to the necessity of its improvement also. Notwithstanding the very unsatisfactory state of the finances it is contemplated to raise a loan of Rs.3,547,000 in the course of the year. The estimated expenditure includes Rs 300,000 for new municipal offices and Rs.1,095,000 for the construction of a new market, of *dhobikhanas* (washing places) and of *gowkhanas*, and of five blocks of model houses for the poor.

Feb. 23rd.

THE

ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

(*Continued from p. 742.*)

Formation of Strong Medical Unions at Sunderland and South Shields.—Public-house Medical Clubs.—The Struggle with the Friendly Societies.—A Two Years' Canvass to Recruit Medical Practitioners.—Material Improvements Secured.—Unanimous Action of the South Shields Practitioners.—A Slow but Sure Policy.

THOUGH the action of the County of Durham Medical Union has, so far, been mainly devoted to the interests of the colliery surgeons the grievances of the town practitioners have not been overlooked. This union, it has been fully explained, is of but recent creation and it was materially impossible to take up every question at one and the same time. The creation, however, of local branches has facilitated the dealing with various interests, for what could not be discussed as fully as might be desirable by the central council was very ardently debated by the local branches concerned. Thus the difficulties besetting the town practitioners have been taken in hand, notably by the South Shields and Sunderland branches. They brought forward at the last general meeting of the County of Durham Medical Union, held on Feb. 5th, a resolution, which was endorsed by the council of the Union and embodied in their annual report, recommending that the subscriptions paid by members of friendly societies for medical aid should be raised to 4*s.* per annum. In certain parts of the county it has fallen as low as 2*s.* 6*d.* per head per annum, whereas the charge generally made is 1*d.* per week or 4*s.* 4*d.* per annum, and in some places 5*s.* per annum are paid. Then a very important resolution was passed at this same meeting to the effect that the County of Durham Medical Union should present a request to the General Medical Council asking that body to remove from the Medical Register any practitioner who countenances or encourages canvassing organised by a union or society of working men on his or her behalf. Sir George Philipson was asked to bring this matter before the General Medical Council. It was pointed out at the time that the increasing number of lady practitioners must be taken into consideration and that efforts should be made to bring them into line with the movement, so that they might take their full part in the work of organising the medical profession. It was further decided that no practitioner should henceforth accept the post of medical officer for any new club or friendly society for less than 4*s.* per head per annum.

The Sunderland branch of the County of Durham Medical Union was formally constituted on May 25th, 1899. Dr. J. Murphy of Sunderland was elected President and Dr. Hubbersty honorary secretary. Out of 52 local practitioners 44 were enrolled as members of this branch, and this may be considered a very good beginning. Unfortunately all these members did not show themselves as energetic as might be desired. There has been some falling off and this often happens. The excitement, the enthusiasm caused by a first effort, the very novelty of the undertaking, bring people together, but sometimes those who are most ready to promise support are the least fit to persist in a sustained effort. Nevertheless the branch has shown great activity. It has held from May, 1899, to March, 1901, no less than 21 meetings, with an average attendance of 16 members, not counting, of course, the general meeting and the council

meetings of the county union which assembled at Durham and where the representatives of the Sunderland branch were present. One of the first matters to be taken in hand was the question of what are called "family clubs." This means cases where a weekly payment is made either through the agency of a society or directly to a medical practitioner so as to secure medical aid in case of sickness for any members of the family. The rates of payment at Sunderland were very complex, varying according to the number of children; but, practically, they were much the same as that paid by the miners—namely, 6*d*. per fortnight for the entire family. The town practitioners felt that they should join with the colliery surgeons and insist on this being raised to 9*d*. This end was attained with comparative facility in those cases where the payments are made directly to the medical practitioners. This method of payment without any intermediary constitutes what are called "private clubs." In that case no negotiations are necessary. There is no organisation, no committee to negotiate with. The medical practitioners have simply to inform the persons who make weekly payments to them that such payments will no longer be accepted and that the contract must cease or be altered. But, of course, it is first necessary that all practitioners holding private clubs should act simultaneously and that the alterations proposed should be the same in all cases. To make it all the more evident that such an understanding had been effected by the Sunderland practitioners, the local branch of the County of Durham Medical Union printed and issued a similar private club card for all its members. Consequently, whatever practitioner the subscribers selected they obtained from him the same subscription card and the same terms. The movement, as far as the private clubs were concerned, was entirely successful, and this alone means a very considerable improvement in the position of a large number of the Sunderland practitioners.

There are, however, other difficulties which have not yet been settled. For instance, there is the question of "yearly boxes." These are often held in public-houses. A certain number of persons agree to pay a fixed sum every week and collect this amount at a public-house. Out of this sum they pay a medical practitioner 3*s*. per head per annum for medical attendance in case of sickness and divide the remainder among themselves at Christmas. Such organisations, by bringing men together in public-houses, indirectly encourage drinking, and the medical services given also tend to increase the custom of the public-houses. It is obvious that the dignity of the profession would be best served by the total abolition of the public-house yearly box. In this case to ask that the amount paid to the medical attendant should be increased does not suffice; this should be coupled with the establishment of some method of collecting the money that would not necessitate the calling at public-houses.

The Sunderland branch of the County of Durham Medical Union some time ago approached the friendly societies and urged that the payment should be increased from 3*s*. to 4*s*. a year and that there should be no juvenile lodges, or that when juveniles were enrolled they should pay the same sum as the adults. 27 lodges of friendly societies and seven branches of the boiler makers' trade union agreed to these terms, but this does not represent the majority of such organisations. The remaining lodges recently formed the Sunderland Amalgamated Friendly Societies' Association. They rented a house and imported a medical man, whom they have lodged in this house and employ as their servant. Efforts were made to prevent this intruder from accepting such a post, but they were not successful, so he has been professionally and socially ostracised. Even the medical practitioners who are not enrolled in the ranks of the union have joined in this boycott. No one will consult with him, and should a second opinion be necessary he will probably have to retire from the case. Hopes are entertained that in the course of time the imported medical practitioner will find his position so difficult that he will retire.

At South Shields the organisation of the members of the profession preceded the formation of the County of Durham Medical Union. The latter was, as already related, definitely constituted on Dec. 8th, 1898; the South Shields Medical Practitioners' Association was formally established on March 8th of the same year, but the work of organisation had been going on a long time previously. The mode of procedure differed somewhat from what has been done in most of the other centres. In this case it was determined to win over the approval of all the local practitioners before any formal steps were taken, and this was a task which was fraught with so many difficulties that it took some two years to accomplish it. About 25 years ago a similar attempt had been made which resulted in the importation of an outside practitioner by the friendly societies. At that time the medical practitioners were only paid 2*s*. 6*d*. per head per annum, and they demanded that this should be raised to 5*s*. Though reasonable in the abstract it was not very wise or politic to propose thus suddenly so large an increase. There seem to have been lack of tact and insufficiency of preparation and organisation. Nor was the opinion of the public and the profession as ripe some 25 years ago for such efforts as it is to-day. In any case the movement was a dead failure, and the imported medical practitioners caused the old-established practitioners to lose many of their patients. The memory of this failure was not easily effaced. Whenever proposals were made to form a medical union and to seek to improve the position of the local practitioners the melancholy experience of the past was invoked. Nevertheless, on Oct. 9th, 1896, an informal meeting was held at the infirmary which was attended by the two house surgeons and five practitioners from the town. This small group pledged themselves to use their utmost endeavours so as to bring all the local practitioners together and to establish a strong society. Each would strive to spread the idea among his acquaintances, and Dr. J. H. Hunter was requested to act as secretary to bring them together again when necessary. They also agreed to send an appeal and statement to the medical press. Another informal meeting was held on the 17th of the same month and it was decided to inquire what had been done at Hartlepool, where some of the local practitioners had established a medical service in opposition to the clubs and friendly societies. These early efforts were supported by 12 local practitioners who agreed to the principle and gave all help while doubting as to the possibility of obtaining unanimous support. It was indeed very up-hill work. Thus it was not till the beginning of the year 1898 that the initiators of the movement felt that their task was at last accomplished and that they could count on the unanimous support of all the medical men actually practising in the town. Another informal meeting was held on Feb. 16th, 1898, which was attended by 11 practitioners, and Dr. Alfred Cox came from Gateshead to explain how a medical union might be formed. It was then decided that the time had come to convoke a formal meeting and definitely to constitute a society.

Thus was the inaugural meeting of March 8th, 1898, brought about and it proved a great success. Out of a possible attendance of 34 practitioners no less than 28 were actually present. It was then resolved that a union should be forthwith established, its officials were elected, its objects were discussed, and the committee were appointed and instructed to draw up a set of rules. Within a week's time this task was accomplished. The objects were then defined as follows:—

(*a*) To promote good feeling and *esprit de corps* among the practitioners of South Shields and district.
(*b*) To safeguard the interests of the profession generally, and its own members in particular.
(*c*) To discuss medico-ethical and kindred topics affecting the profession.
(*d*) To form and issue a black list of habitual bad payers for the use of members only.

Two members of the committee made some objection to the proposed black list, but finally they came round to the views of the majority, so that the "objects" and the rules were unanimously adopted.

The title selected, as already stated, was that of the South Shields Medical Practitioners' Association which comprises all registered medical men residing, or having consulting-rooms, in the county borough of South Shields and the villages of Whitburn and Boldon. The subscription was only 5*s*. per annum and at least four general meetings were to be held in the course of the year. It was under the heading of "expulsion of members" that the most important rule was drawn up—namely:

In the event of this association agreeing to take combined action any member found guilty (after full discussion and ballot) of gross breach of faith shall be expelled from the association and professionally ostracised by the members of the association.

It was, however, agreed that no member should be expelled unless by a majority of two-thirds, not of the members present, but of the entire association.

This is the one disciplinary rule, the one weapon for enforcing the decisions agreed upon. On March 26th another general meeting was held which was attended by 23 out of the 34 medical men in practice at South Shields, and these rules as drawn up and recommended by the committee were adopted. Thus, and though it took some two years to prepare for the formation of the association, this preparation was so full and elaborate that when at last the formal steps were taken the support given was unanimous and everything was accomplished and organised in less than three weeks. All the old feuds and animosities between some of the practitioners in the town had been smoothed over, old enemies were now fast friends, and this happy uniting of the profession manifested by the official formation of the association was celebrated by a dinner held in the following month at which 21 members attended. The fact that on March 8th 28, on March 26th 23, and for the dinner on April 15th 21, out of the 34 medical practitioners were able to attend is very significant. At the most pleasant gathering, the dinner, there was the smallest attendance; to the most important meeting, when it was necessary to show a united front so as to form the association, there came the largest number. This illustrates the earnestness felt in the cause, and is truly encouraging.

In June, 1898, a general meeting was held to discuss the question of fees for certificates and emergency cases. The feeling was that certificates were constantly required for all manner of purposes other than the objects of the society which employed a medical officer. Therefore it was resolved that if a person wanted to join a friendly society or a trade protection society that did not employ a medical officer he should be charged 2*s.* 6*d.* for a health certificate. If such societies did employ a medical officer, then such medical officer was in future to charge 1*s.* for a certificate. Sick and health certificates given for other than lodge purposes were to be charged 1*s.* each. The point is that a person is often insured in several societies and only one of these societies employs a medical officer. It is not fair to obtain from that medical officer certificates needed by the other societies which do not employ him.

The first annual meeting was held in October, 1898, and 24 members were present. The report then submitted showed that the number of practitioners in and about the town had increased and consequently there were now 38 members of the association. The working expenses had been so slight that though the subscription was only 5*s.* the balance in hand was £3 13*s.* 8*d.* The late Mr. R. B. Anderson of the Corporate Medical Reform Association gave an address explaining the object of this organisation and 17 members joined this body after the South Shields Medical Practitioners' Association had passed a resolution approving the policy of the Corporate Medical Reform Association. At the general meeting held in November, 1898, it was resolved that the resolution in regard to certificates should come into force on the following Jan. 1st. It was also decided that no new friendly or trade society should be accepted for less than 3*s.* 6*d.* per head per annum. That this should be considered a great improvement shows to what a low ebb contract work had fallen. A penny per week, or 4*s.* 4*d.* per annum, should be the minimum, but nevertheless 3*s.* 6*d.* is a considerable improvement on the 2*s.* 6*d.* usually paid at South Shields. The meeting having heard of the efforts that were then being made to form the County of Durham Medical Union passed a resolution expressing their sympathy and approval. It was also decided to extend the field of action of the South Shields Medical Practitioners' Association to the neighbouring districts of Jarrow and Hebburn. The 10 medical men practising in these localities were willing to join, there would be no outsiders, and perfect unanimity would prevail. On the other hand, this would so increase the size of the ground covered by the association that it was necessary to subdivide it into districts with a "whip" for each district. Now followed the second annual dinner which was attended by 31 members and five visitors, and this large attendance shows how the association had increased in numbers and strength.

During the winter and the beginning of the following year the County of Durham Medical Union gave proof of its vigour, for it was engaged in several notable struggles, and as South Shields is in this county the question of affiliating with the more general movement was raised. After some discussion the affiliation was voted on March 14th, 1899, when another general meeting was held. This meant that the members of the South Shields Medical Practitioners' Association would have to pay 10*s.* 6*d.* instead of 5*s.* per annum and would not be able to keep their own money for themselves—that they would have to send it all to the treasurer of the county union at Durham. They would only receive back from the central council representing the county such sums as were judged necessary to cover their local working expenses. Considered from a purely narrow, local, and selfish point of view such affiliation did not seem a very advantageous transaction, but from the more philosophical, more generous, and broader point of view it was certainly the true policy. Local organisation, however successful, will always be endangered from the outside. A locality is as a larger individual, and if union is necessary in a locality between individuals the union of different localities with each other is equally necessary. So, the South Shields Association is now a branch of the County of Durham Medical Union. The benefits of organisation made themselves felt more and more as time went on. Thus, in May, 1899, a lodge changed hands and the rule came into force that no one was to accept a new appointment at less than 3*s.* 6*d.* The members of the lodge called on all the practitioners available offering the old terms of 2*s.* 6*d.*, and they all refused, and thus the increase had to be given. No medical practitioner tried to underbid his colleagues; the formation of a union has put an end to any such modes of competition. On June 1st following the South Shields practitioners raised their charge for private family clubs from 6*d.* to 9*d.* per fortnight per family. They employed collectors, paying from 10 per cent. to 15 per cent. commission on the amounts collected, and gave them instructions not to accept less than 9*d.* and to strike off all those who would not give this amount. In the same manner as at Sunderland uniform subscription cards were printed for all the practitioners, so that wherever the subscribers went, from one end of the town to the other, every practitioner gave them the same card and offered them the same terms—there was no alternative left open. Before this uniformity of action on the part of the profession the public yielded at once. In the same way and with equal facility the midwifery fees have been raised from 10*s.* 6*d.* to 15*s.* These two items alone, the midwifery fees and the raising of the family private clubs from 6*d.* to 9*d.*, have sufficed to increase the income of some practitioners in the town to the extent of about £100 per annum. Then it has also been resolved to apply a wage-limit in regard to family clubs and not to accept as members of such clubs any family where the principal wage-earner receives more than 35*s.* a week. On examining the prevailing rates of wages in the neighbourhood this was found to be the frontier line between the skilled and unskilled worker. As a matter of fact, very few men earn exactly 35*s* a week. Carpenters generally make 38*s.* and riveters 45*s.*, whereas on the other side of the scale labourers often do not earn 20*s.* a week, and it is for the latter that family clubs are intended. The third annual meeting was held on Nov. 28th last and it was then determined to take in hand the question of hospital abuse. A committee to inquire into the matter was appointed. It was then also reported that at two collieries in the immediate neighbourhood of the town the increase to 9*d.* per fortnight had been granted, but that the men at a third colliery had imported a surgeon and at first only paid him 6*d.* per fortnight. After he had been on the spot for a little while he also suddenly refused to continue any longer working for so small a sum and insisted on the 9*d.* The miners, in face of this defection, had now yielded and were paying the sum required. One of the South Shields practitioners who had attended the miners at a neighbouring colliery had incurred some loss in consequence of this struggle, but was now regaining his old position. All these details indicate that genuine progress has been made. The methods adopted were very circumspect and prudent. Each step was taken only after elaborate preparation. No sweeping or sudden reforms were attempted. Slow and sure was the policy. This policy may have lacked in brilliancy, it may not have satisfied buoyant and impatient ambition, but it has brought about substantial improvement without necessitating any great risk or sacrifice. On the other hand it has left many grievances and abuses still unreformed and therefore there is yet much work to be done in the future.

South Shields.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Liverpool Country Hospital: a Munificent Donor.

THE second annual meeting of the subscribers to the Liverpool Country Hospital for the Chronic Diseases of Children was held in the Town Hall on March 4th, under the presidency of the Lord Mayor. The report stated that the children admitted to the institution were the subjects of diseases requiring a prolonged period of treatment in the country, whether medical or surgical, for their cure, and an essential qualification for admission was an opinion that a reasonable hope of cure existed. The hospitals in the city deal only with acute cases, and cannot meet this necessity. During the past year the applications for admission had been considerably in excess of the available accommodation; the 20 beds rented from the children's convalescent home at West Kirby had proved quite inadequate. The result of the year's work had been highly satisfactory, 12 out of 14 cases discharged having been cured. Of the 20 patients admitted when the hospital was opened 10 were still under treatment. The number of cots available for new cases had been very limited. It was gratifying that the committee had been able to acquire a suitable site at Heswall comprising nine acres, at a cost of £2500, upon which a hospital will be erected which would accommodate a largely increased number of children. The amount required to build the hospital would be £20,000, and a generous donor had come forward offering to contribute £5000 provided that three other donations of the same amount were forthcoming and that a further sum of £10,000 in any amounts should be raised as a maintenance fund. The gentleman who has made this offer wishes to remain anonymous, and makes a stipulation that the above amounts shall be raised by June 30th next. Mr. Holbrook Gaskell has added to his previous benefactions by sending £1000 to the fund. Mr. Alfred L. Jones also announced his intention of contributing £500, and the committee made an earnest appeal for funds to meet the conditions of the generous anonymous donor. There can be no doubt that the hospital has supplied a want long felt and the benefits of treatment aided by pure country air were warmly advocated by Dr. William Carter and Dr. Richard Caton at the meeting which was influentially attended.

The City Council and Workmen's Dwellings; the Prevalence of Measles in, and the Absence of Small-pox from, the City.

The housing committee of the City Council has been active in visiting several sites in the north, south, and central areas of the city to consider the requisite improvements for the erection of workmen's dwellings. A special committee has been appointed for the preparation of a scheme to give effect to this object. The medical officer of health (Dr. E. W. Hope), in his report to the health committee on Feb. 28th, regretted the continued prevalence of measles, of which he saw no signs of decrease, the number of deaths registered during the week from that cause being 31. A considerable number of schools had been closed, which had the effect of removing centres of infection. The disease was practically confined to the north and east areas of the city. Fortunately there was not a single case of small-pox reported during the week prior to the last meeting of the health committee (March 7th).

The Lord Mayor's Hospitals Century Fund.

The Lord Mayor has already received more than half of the amount for which he appealed to liquidate the indebtedness of the local charities. He has, in consequence, been enabled to distribute to the charities at the rate of 10*s.* in the pound. The Royal Southern Hospital received £2070, the David Lewis Northern Hospital £1881, the Royal Infirmary £1695, the Stanley Hospital £918, and the Liverpool dispensaries £620. Smaller amounts, bringing up the total to £10,126, were apportioned to the remaining charities.

March 12th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Cottage Homes.

FOR some years past the principal boards of guardians in Glamorganshire have provided cottage homes for the children admitted to their workhouses. Their establishment has been attended with noticeable success at Bridgend, Swansea, Cardiff, Pontypridd, and at Neath, where additional houses are about to be erected at a cost of over £7000. The cost of these isolated dwellings with their increased staff is probably a little higher than that of one large building; in Cardiff it is said to be 9*s.* 4½*d.* per head weekly. The homes at Pontypridd were erected in 1892, and there are now occupied eight cottages, in each of which there is accommodation for 20 or 22 children of both sexes and of varying ages. The care of the household is entrusted to a foster-mother who is assisted only by those children in the home who may happen to be old enough to render assistance. Each house is self-contained, the meals being cooked and partaken of in the separate homes. In two of the cottages the foster-mother is married, the husband in one case acting as gardener and in the other as shoemaker, the boys receiving training in both these callings, and one cottage occupied by elder girls has a laundry attached to it. The children of school age attend a school within the grounds of the institution.

Swansea Workhouse.

Reference has already been made in this column (March 2nd, p. 668), to the re-arrangement of the Poor-law appointments at Swansea. The board of guardians have now decided to appoint a medical officer for the town district at a salary of £150 per annum and £10 as consulting medical officer to the workhouse, together with the vaccination fees, which are estimated to amount to an additional £300 yearly. The medical officer to the workhouse is to be paid a salary of £200 per annum, which sum is to include extra medical fees. The guardians will supply all medicines, but the medical officer is to bear the cost of all spirituous liquors that he may order. This last stipulation is surely a distinct innovation.

Arsenic in Beer.

In a recent report of the analyst to the county of Glamorgan it is stated that among a large number of samples of beer and brewing materials submitted for examination for arsenic in only one instance was any contamination found, and that was in a sample of beer from Merthyr, where arsenic was detected in amount equivalent to one-sixth of a grain of metallic arsenic per gallon. The analyst (Mr. Clarence Seyler) in the same report refers to the possibility of arsenic being found in beer brewed from malt, and in which glucose has not been used, owing to the malt having been dried by arsenicated coke. Mr. Seyler states that he has examined samples of coke made from Welsh coal and finds that while the best qualities are free from arsenic, in other varieties he has found it present in an appreciable amount up to one-twentieth of a grain per pound.

Health of Neath.

Mr. James Elias, the medical officer of health of the borough of Neath, in his report for the year 1900 records a death-rate of 19·1 per 1000 and the high infantile mortality rate of 179 per 1000 births. There were epidemics of measles and of typhoid fever in the town during the year.

West Cornwall Women and Children's Hospital, Redruth.

The annual meeting of the subscribers of this charity was held on March 6th. The medical report showed that 142 in-patients had been admitted, 110 of whom were women and 32 were children. The average stay in hospital was 30 days for women and 47½ days for children. The average cost per head, including staff, amounted to £28 16*s.* The financial statement showed that the total expenditure was £505 and an adverse balance of £43 remained.

Bath Workhouse.

At the meeting of the Bath Board of Guardians held on March 6th a letter was read from the medical officer of health (Dr. W. H. Symons) inclosing a copy of a communication which he had addressed to the Local Government Board complaining of being refused admission to the workhouse to investigate the outbreak of an epidemic among children there. The master stated that he acted in accordance with Article 214 of the Local Government Board Orders in instructing the porter to admit no one except the officials of the board without the authority of the guardians. Eventually the guardians decided to send an explanation of the circumstances to the Local Government Board.

March 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Glasgow Small-pox Epidemic.

THE position on the whole is showing signs of improvement, but is yet far from being satisfactory. There are still 435 patients under treatment in hospital, and the new cases number as a rule from 10 to 15 daily. The death-roll is now 167. The authorities continue to display unabated energy in their endeavours to check the epidemic, and a somewhat querulous tone which had begun to manifest itself in public criticism is now less evident. Dr. A. K. Chalmers, on behalf of the Health Committee, has addressed a circular letter to all medical practitioners throughout the city inviting their further coöperation in promoting revaccination. The letter proposes to divide the city into districts based on the census enumeration scheme for the purpose of organising a systematic house-to-house visitation. It is hoped that a sufficient number of practitioners will volunteer to conduct evening visits in each district so that the necessity of submitting to revaccination may be urged with the sanction of professional advice on every person not yet revaccinated. For each vaccination so obtained the modest fee of 2*s*. 6*d*. will be paid. As was to be expected the public spirit of the profession is proving equal to the occasion, and a meeting of medical men who have accepted the conditions of the circular is to be held at an early date to organise the details of the scheme. Councillor J. T. Biggs from Leicester has appeared on the scene and has spoken at a public meeting, which he persuaded to give an endorsement to a proposal that he should receive full liberty to visit the small-pox hospital. Bailie Stevenson, who was present, expressed his approval of the proposal, but the resolution when forwarded to the Lord Provost received a reply which will hardly invite further requests of the same nature. The local press has had the advantage of some vigorous comments on the "Leicester system" from the pen of Dr. Francis T. Bond, the honorary secretary of the Jenner Society, and the conditions generally hardly favour the progress of the anti-vaccination crusade.

A Dispensing Mistake.

An unusual case has recently occupied the attention of the Court of Session, in which a Glasgow commission agent sought to recover damages from a firm of druggists for a mistake made in dispensing a prescription. It seems that the pursuer left at the defendants' shop a prescription for some medicine to be taken internally, and that after this had been dispensed a bottle containing liniments of aconite and belladonna was by mistake given to a messenger who delivered it at the pursuer's office. The pursuer, without completely unwrapping the bottle, which was accurately labeled and marked "poison," at once proceeded to take a dose. Becoming suspicious that something was wrong he went back to the druggist to complain, taking with him the poisonous liniment. The druggist's assistant, though admitting that a mistake had been made, treated the matter somewhat cavalierly, not believing, as he said in court, the pursuer's statement that he had actually swallowed a dose of the liniment. When the pursuer reached home he became very ill and was for some time under medical treatment; he therefore sued the firm of druggists for compensation. It was pleaded in reply that the pursuer had been guilty of contributory negligence inasmuch as he had failed to remove the wrapper from the liniment bottle and had thus neglected to take proper precautions for his own safety. The Lord Justice Clerk in summing up made some strong remarks on the manner in which the pursuer's complaint had been met by the druggists' assistant and the jury found for the pursuer and assessed the damages at £700.

Glasgow University.

The preparations for the celebration of the ninth jubilee of the University are being steadily advanced. The ceremonies are to be on a highly elaborate scale and every effort is being made to render the whole undertaking a great success. It is hoped that one result will be a large addition to the fund to be raised for increasing the laboratory facilities of the University. Some substantial contributions have already been obtained and the sum promised now reaches some £25,000.—The death of Dr. Dickson, emeritus professor of divinity, will be keenly regretted by many graduates, his picturesque figure being well known in the quadrangles, and members of all the faculties were his debtors for long years of service he gave to the University library.—The death of Dr. C. E. Foucart Scanlan will also touch the sympathies of Glasgow graduates of 10 to 15 years ago. Dr. Scanlan practised for some years in Australia, but he recently volunteered for colonial service on the West Coast of Africa. While on the voyage out he unfortunately succumbed to an attack of sunstroke.

Death of Dr. John R. Black of Greenock.

The intimation of the death at the comparatively early age of 51 years of Dr. John R Black has caused general regret in Greenock and the neighbourhood where he had gained a secure position in professional and public esteem. Dr. Black was a graduate of Edinburgh University and for some years acted as one of the surgeons to the Greenock Infirmary. More recently he interested himself to secure the establishment of a children's convalescent home, but unfortunately he has not lived to see the completion of his labours. His death took place on March 10th at Biskra, Algeria, where he had gone for a holiday with a view to re-establish his health.

Aberdeen Dispensary.

At the annual meeting of the supporters of the Aberdeen Dispensary, Maternity Hospital, and Vaccine Institution held on March 6th it was reported that the total number of cases treated during the year was 11,801. The ordinary and zymotic cases numbered 9235 and vaccinations 141. The new maternity hospital in Castle-street was described by the Lord Provost as a "splendid house." Five of the medical officers were re-elected, and for the vacancy caused by the resignation by rotation of Dr. A. T. Gordon Beveridge Dr. John F. Christie was appointed by a majority of votes.

The Hospital for Sick Children, Aberdeen.

The ordinary expenditure last year amounted to £3486, and the ordinary income to £1808, leaving a deficiency of £1678, reduced by legacies to £878, and an appeal for more liberal subscriptions has been issued.

March 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The University Question in Ireland.

IN order to carry out the objects aimed at in the resolution of the Senate of the Royal University of Ireland passed some time ago an influential deputation, introduced by Lord Morris, waited on his Excellency the Lord Lieutenant on March 9th for the purpose of asking that a Royal Commission might be appointed to inquire into the relations of that University with the other teaching bodies and with its own students. His Excellency's reply proved a happy surprise even to the members of the deputation. He said that after consultation with his colleagues an inquiry would be granted immediately and that it would assume the shape of a Royal Commission to inquire into the matter of university education in Ireland. He added, however, that the inquiry would not include any investigation into the condition, circumstances, or special work of Trinity College, Dublin. It will be noted that the field to be covered by the Royal Commission promised by his Excellency is far wider than was asked for or at all anticipated. It will probably prove of the greatest possible importance in connexion with the solution of the whole Irish University question.

Queen's College, Belfast.

Lieutenant-Colonel Moorhead, late of the Indian Medical Service, has been appointed by the College Council lecturer on tropical diseases, a department established at the suggestion of the Colonial Secretary.

Hospital for Diseases of the Nervous System, Belfast.

At the fourth annual meeting of this hospital held on March 8th it was reported that 473 patients had been treated during the year, as against 377 in the previous 12 months. On the first of this year wards for in-patients were added, the hospital hitherto having been for out-patients only. The hospital has also been purchased from the ground landlord. At the conclusion of the meeting an "at home" was held in order to let the friends of the charity inspect the new wards.

North of Ireland Branch of the British Medical Association.

A meeting of the members of the North of Ireland branch of the British Medical Association, specially summoned to consider the report of the Constitution Committee, was held in the museum, Belfast, on March 8th. The President (Professor John W. Byers), who occupied the chair, gave a *résumé* of the details of the new constitution as proposed by the committee specially appointed at the last annual meeting of the Association at Ipswich. An interesting discussion followed, at the conclusion of which Lieutenant-Colonel Moorhead, moved, and Mr. G. L. St. George (Lisburn), an ex-President of the North of Ireland branch, seconded, a proposition, which was passed unanimously, approving of the recommendations of the Constitution Committee.

Dr. Alexander Dempsey on Irish University Education.

Dr. Alexander Dempsey, senior physician to the Mater Infirmorum Hospital, writes a very interesting letter to the *Belfast Irish News* (the organ of the Roman Catholics of the North of Ireland) of March 9th, pointing out that those who expect the Roman Catholics of Belfast and the north of Ireland generally to be satisfied with the endowment of a college in Dublin to supply all their requirements for university education know little of the feeling of the people. He says that the Roman Catholics of Belfast will not send their sons to Dublin where they have no friends or business relations of any kind. He points out the sacrifices made by Roman Catholics in the north of Ireland in order to be consistent and obedient to the teaching of the Church which made the restrictions against Roman Catholics attending the local Queen's College more severe than those in operation at Cork, Galway, or Trinity College, Dublin. Should the Roman Catholics of Belfast be ignored in the settlement of the university question Dr. Dempsey thinks the local bishop will have no easy task in preventing them from attending the Queen's College. If the Roman Catholics of Ulster are to be left out of any settlement, Dr. Dempsey says, let a University of Ulster be established and a Catholic endowed college as well, and let the latter with the Belfast Queen's College be equally represented on the Senate of the Belfast University. The Roman Catholics of Belfast and the north of Ireland have built an admirable new hospital in Belfast; they are also arranging to establish a medical school (in fact, their hospital is now recognised by the Royal University), and most naturally they demur to any arrangement of the university question which would tend to complete centralisation in Dublin. They believe, and many think most fairly, that the Roman Catholics of the north are quite entitled to obtain their medical education at home without going to Dublin. They see that continued centralisation of educational matters in Dublin is really causing no advantage, but the contrary, to the general inhabitants of Ireland, and that, even looking at the question of the advancement of the science of medicine, centralisation tends to stagnation.

March 12th

PARIS.

(FROM OUR OWN CORRESPONDENT.)

New Chairs in the Faculty of Medicine of Paris.

THE Municipal Council has just created two new chairs in the Paris Faculty of Medicine, the one of Clinical Gynæcology and the other of Clinical Surgery of Children. It is some two years since the project was first set on foot and the council voted 2000 francs as the endowment for each chair. Things, however, went no further owing to it being found impossible to decide as to who should be called to occupy the chairs. This year the subject has come up again and the nomination of the professors has been confided to 10 members of the Municipal Council and 12 representatives of the University, among whom are the dean and assessor of each of the three faculties and an additional assessor for the Faculty of Medicine. M. Pozzi was nominated for the chair of Gynæcology by 12 votes, as against five given to M. Bouilly and four to M. Second. M. Kirmisson was nominated for the chair of Clinical Surgery of Children by 13 votes in the third ballot as against nine votes given to M. Brun. The names will have to be submitted for ratification to the Minister, but there is little doubt as to his decision.

The Sanitary Condition of the Andral Hospital.

At the meeting of the Hospitals Medical Society held on Feb. 22nd M. Mathieu complained of the overcrowding and the grossly insanitary conditions existing at this hospital. Not only the patients but the nurses and visitors were affected by the want of air and by the abominable smells. The patients were very closely packed and those suffering from pneumonia lay on mattresses placed on the brick flooring of the wards. Owing to these conditions contagious affections multiplied exceedingly; for instance, all the patients in a low state of health suffered from thrush. M. Joffroy, M. Siredey, and M. Hirtz backed up M. Mathieu in his complaints and added some of their own. M. Faisans remarked that there were 1700 patients too many in the Paris hospitals, which was owing to the fact that a great number of persons were admitted who had no right to be so. On the other hand, it was impossible to increase the number of beds in the infirmaries (*lits d'hospice*) so as to relieve the pressure on the hospitals for want of funds. M. Mathieu suggested that a minimum cubic air space for every patient should be insisted upon. In barracks the minimum was 17 cubic metres per man and in military hospitals 40 cubic metres per patient.

The Bretonneau Hospital.

This new hospital which is devoted to sick children was opened on March 1st. The site contains 13,000 square metres and the buildings are of yellow brick ornamented with tiles which have a very bright appearance. The roofs are covered with coloured tiles. The various blocks are as follows: the first contains the rooms of the director and the house physicians and surgeons, administration offices, waiting rooms, and medical and surgical consulting rooms. In the second are the dispensary, the kitchens and offices, and a dining-room for the nurses. The remaining blocks are for wards, including isolation wards. The fittings of all these buildings are in accordance with the latest views upon hospital architecture and all angles made by the walls with the floors or ceilings are rounded. At the end of every ward is a kind of lobby well lighted and ventilated and furnished with a table and chairs where the little patients who are able to be up but not well enough to be out of doors can get up their strength after being in bed. Every ward has a bath-room with two baths, one fixed and the other moveable, the latter being for bedridden patients. There are three operating theatres fully fitted up and lighted with electric light. There is a lift and the warming of the buildings is done by steam. The isolation wards are fitted with glazed cubicles so that the children can see the goings-on in the ward from their beds although completely isolated. The lay staff of the hospital, including the nurses, numbers 125 persons. On the opening day the new hospital took in 40 surgical patients from the Tenon Hospital where they were being treated. The medical wards were to open about March 10th, but the dispensary is not quite ready yet.

Alcohol and the Army.

Last year General Gallifet, the then Minister of War, issued an order forbidding the sale of alcohol in barrack canteens. General André, the present Minister, has just issued another order to corps commanders on the same subject. "The order of last year," he says, "will give good results as regards the prophylaxis of alcoholism in the army. But seeing that the abuse of alcohol is always practicable in other places than barracks the order will do but little good unless by means of moral action exercised by the officers the men are convinced that alcohol, so far from giving them strength, diminishes their powers of resistance both to fatigue and disease." As a result of this opinion the Minister has decided that lectures are to be given to the various corps either by officers or by army surgeons upon the dangers and effects of alcohol, while at the same time a course of elementary lectures on hygiene is to be given. These two circulars have not, unfortunately, had such a good effect as was expected owing to the want of surveillance exercised by the officers, a want generally due to the complaints of the *cantiniers* about the monetary loss which they sustained, the sale of "nips" being their principal source of income. The artillery canteens in the north were particularly affected. The colonel of one of these regiments, however, hit upon the happy idea of trying milk and the results exceeded all expectation. The first day eight glasses were sold. Eight

days later 15 litres were sold in a morning and at present 80 litres are barely enough, without counting the sale of *café noir* and chocolate made with water.

The Treatment of Inoperable Tumours.

This subject, which comes up periodically for discussion at the various societies, has of late had special attention drawn to it. M. Wlaieff has been making experiments in the hospitals with a serum obtained from birds previously inoculated with the cells of blastomycetes obtained from human cancerous tissues. M. Berger and M. Lucas-Championnière have previously laid before the Academy of Medicine the results of some observations made upon patients with inoperable growths with this serum, who have improved in a very remarkable manner both as regards local conditions and also as regards their general health. Actual cure, however, was not obtained. M. Reynier has again brought the subject before the Society of Surgery. Using the serum he found that in a certain number of cases pain disappeared very rapidly, the patient's general condition improved, and the growth diminished in size, but did not altogether disappear. The results are much the same as those obtained some years ago under the use of the anti-cancerous serum of M. Richet and M. Héricourt. On the other hand, experiments made upon animals show that Wlaieff's serum has no appreciable effect when the lesion is generalised. M. Picque, in a case in which a malignant growth of the jaw recurred after operation, found that in spite of injections of Wlaieff's serum metastasis rapidly took place and that the injections apparently made the tumour grow. M. Bazy reminded the meeting that cancerous tumours sometimes disappeared without any anti-cancerous treatment, a fact which he had noticed in a case of cancer of the breast with secondary growths in the vertebræ. M. Berger, in resuming the discussion said that the improvement which followed these injections was to his mind unquestionable, and the treatment was certainly deserving of a trial in those cases where the surgeon felt unable to operate. He had seen most striking improvement occur in all the symptoms, but he had never seen the growth vanish completely. At the same meeting M. Launois referred to some remarkable results obtained by Jaboulat's method of hypodermic injections of quinine. The case was one of cancer of the breast. Glands were involved both in the axilla and the supra-clavicular region. There was marked cachexia and the patient suffered severely. She could neither eat nor sleep and the growth had obviously extended to the vertebræ, in fact she was dying. After being treated for two months with injections of quinine hydrochloro-sulphate given every two days in doses of 50 or 60 centigrammes the results were something marvellous. The ulcer healed up and the breast had almost regained its shape, the glands were no longer to be felt, the patient who had been absolutely bedridden was going about, had no pain, slept well, had regained strength, and had put on flesh. This improvement was maintained although the treatment had been left off for a month. These facts are worthy of every attention for in quinine we have a therapeutic agent whose parasiticidal action is known.

arch 13th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Anæsthesia produced by Intradural Injections in the Lumbar Region.

SOME time ago Professor Bier of Greifswald made the important discovery that an injection of cocaine into the lumbar arachnoid caused a total analgesia of the lower extremities and of the abdominal and lumbar surface as far as the mammary region. Experiments were made on Professor Bier himself, on his assistant, and on five patients, the result being that a dose of from 0·005 gramme to 0·150 gramme of cocaine was found to produce analgesia, which began in from five to 10 minutes and lasted about three-quarters of an hour, so that operations on the lower extremities could be performed without the use of any other anæsthetic. Some disagreeable after-effects were experienced, such as headache and vomiting, but there were no grave complications. This method has been tried by several surgeons. Professor Seldowitsch of St. Petersburg has performed operations on the lower extremities of four patients under total analgesia produced in this way, but it was attended with some rather disagreeable symptoms. All the patients some hours afterwards complained of a feeling of intense cold, their temperatures rose to about 40° C. (104° F.), and they also suffered from headache, giddiness, vomiting, and in one instance also meiosis. All these complications disappeared by next day. Professor Tuffier of Paris obtained very favourable results as regards the analgesia, but the above-mentioned complications were present in his cases also. In a paper read before the International Congress of Medicine in Paris he said that he had used the method in 126 cases, the anæsthesia beginning with prickling and formication in the lower extremities which was followed by a feeling of great anxiety, epigastric oppression, vomiting, cold perspiration, and acceleration of the pulse. The symptoms disappeared after 24 hours and were not serious so that Professor Tuffier recommended the method as available for surgical operations. Two other surgeons, Dr. Severeanu and Dr. Racoviceanu of Bucharest, stated in the discussion that they had given lumbar intradural injections of cocaine in 70 and 125 operations respectively. The last-named gentleman found that some disagreeable symptoms, including syncope, were produced in his patients, so that he thought general narcosis by chloroform was preferable. By experiments on animals Dr. Nicholetti of Naples ascertained that cocaine did not produce any alterations in the nerves or the medulla, but that its action was merely vaso-motor; other substances such as ergotin, quinine, and antipyrin, when injected into the lumbar arachnoid had the same effect. Professor Bier himself, in a second communication published in the *Münchener Medicinische Wochenschrift*, states that his method is too dangerous to be generally used and he warns surgeons not to inject more than 0·015 gramme of cocaine. He hopes, however, to be able very soon to recommend injections of another anæsthetic devoid of poisonous action by which analgesia will be produced not only in the legs but also in the trunk and the upper extremities. Injections of eucaine proved useless. Dr. Engelmann of Bonn had 0·010 gramme of this substance injected into his own lumbar arachnoid, the effect being that all the same disagreeable complications of vomiting, fever, dyspnœa, &c., appeared as with cocaine, but the analgesia was very incomplete. Much better results were obtained with tropacocaine. Dr. Schwarz of the hospital at Agram, writing to the *Centralblatt für Chirurgie*, has stated that he has injected this new drug in 16 cases. He began with a dose of 0·015 gramme, gradually increased to one of 0·050 gramme. In no instance did any of the complications produced by cocaine make their appearance. Injections of 0·030 gramme were followed by analgesia extending from the feet to the knees; with stronger doses a more extensive region was affected; with an injection of 0·040 gramme Dr. Schwarz was able to remove a sequestrum from the femur and to operate on several cases of hernia without any pain to the patient. With injections of 0·050 gramme operations of two hours' duration were performed. The general health of the patients was not at all interfered with, and the analgesia appeared in 10 minutes after the injection. Dr. Schwarz was therefore of opinion that the use of tropacocaine by Professor Bier's method will ultimately become the ideal method of producing anæsthesia. Memoirs on the production of anæsthesia by injection of cocaine into the lumbar arachnoid during labour were read last year before the Paris Academy of Medicine by M. Doléris and M. Malartic,[1] whose attention had probably been directed to the subject by the publication of Professor Bier's discovery.

German Military Hospitals in China.

The *Deutsche Militärärztliche Zeitschrift* has published a letter from Surgeon-General Dr. Krosta, the chief medical officer to the German forces in China, dated from Tientsin, Dec. 12th, 1900. He stated that four military hospitals, with about 1000 beds, had been established in Tientsin. Tientsin University was converted into a hospital, for which purpose it was structurally well suited, the wards being large and well ventilated. The arrangements were as complete as in any well-equipped hospital in Europe. There were bygienic, chemical, bacteriological, and radiographical

[1] THE LANCET, August 11th, 1900, p. 465.

laboratories, a dissecting-room, and even a dental department which was very much resorted to. All these institutions were under the care of specially trained medical officers. There were two rooms for operations of which one was provided with electric light. There were also military hospitals for the garrisons at Peking and Paotingfu. A home for convalescents has been established at Kobe, Japan, by the German Red Cross Society. Dysentery and enteric fever had been prevalent, but the former was disappearing whilst enteric fever was becoming rather malignant. The health of the troops was generally satisfactory, the sick being on an average 5 per cent., but among the marines the proportion was much greater. Scientific work was not neglected, and the hospital reports were being collected for publication after the cessation of hostilities. A German medical society had been founded under the presidency of the chief medical officer.

March 11th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Operations on the Upper and Lower Jaw.

ON Feb. 2nd Professor Carl Schlatter spoke in the Zürich Medical Society on this subject. The dangers of the aspiration of blood during operations on the maxilla can be avoided by incomplete narcosis, which, however, is most distressing to the patient, makes the operation much more difficult, and necessitates more haste than is desirable in the case of removal of malignant tumours. Professor Schlatter recommends preliminary compression or ligature of the external carotid if necessary, also of the internal carotid artery, especially in the case of anæmic patients, who, however, should not be suffering from arterio-sclerosis. At the same time this gives the operator the great advantage of removing metastatically diseased glands, which first appear along the carotids and are often overlooked. This latter fact explains the high percentage of recurrence of malignant tumours of the upper jaw. The direct (immediate) mortality of the operations of resection of the maxilla is already very high—from 14 to 31 per cent. (Bryant, Martens)—so that the results in the Zürich surgical wards seem especially satisfactory, there being only one case of death on record out of 34 cases of total resection of the upper jaw for malignant tumour; but the proportion of recurrence is high—König reports 33 out of 47 patients and the Zürich clinique 23 out of 34 cases. Professor Schlatter, speaking of three cases which he successfully operated on, prefers either temporary ligature of the common carotid artery with thin indiarubber tubing or permanent ligature of the external carotid, the hæmorrhage during operation being thereby greatly reduced. Dr. Stoppani, dental surgeon of Zürich, supplied the patients with excellent protheses which corrected both prolapse of the bulb of the eye and deficient speech. Professor Schlatter showed a girl, aged 17 years, from whose mandibula he resected some three inches for myelogenic sarcoma occurring six and a half years ago. After the operation he introduced a "prothèse immédiate" and a month later a definite prothesis made of gutta-percha and surmounted with false teeth; this prothesis, which fitted perfectly and could be taken out and cleaned after meals, had to be renewed four times in six years, corresponding to the growth of the skeleton. The present functional and cosmetic result is perfect: only a slight cicatrix on the outside of the jaw indicates the line of operation, and speech and mastication are both satisfactory. Dr. Stoppani's prothesis with perforated metal side splints proved most valuable; it makes the surgeon independent of the dental surgeon during and immediately after the operation, the chin does not retract, the wound can be kept antiseptically clean, and a cast can be made without more than a short removal of the "prothèse immédiate" from which the definite prothesis can be constructed.

Wounds of the Eye.

On Feb. 23rd at a meeting of the Medical Society of Zürich Professor Haab read a paper on Wounds of the Eye. These wounds are frequent and of practical importance, as the primary treatment greatly influences the prognosis. Of 12,958 patients who attended the out-patient department of the Ophthalmological Clinique during three years, 182, or 1·4 per cent., had perforating wounds of the eye, and 687, or 5·3 per cent., non-perforating wounds. This makes a total of nearly 7 per cent. of all cases. As to primary treatment Professor Haab is a great adversary of wet appliances of any kind, whether moistened with plain water, Goulard water, or weak sublimate solution, as the fingers applying them are rarely properly disinfected and in the case of perforating wounds pressure of any kind is very detrimental. The best primary bandage consists of a pad of aseptic wadding with or without a piece of iodoform gauze. It is only in the case of damage done by an alkaline solution or by lime that immediate flushing of the eye with a watery solution is desirable. Even very severe cases, if treated with a pad of aseptic wadding and immediately sent to the hospital, recover well, as was shown in the case of eight school children who were lately severe sufferers from an acetylene explosion at Diessenhofen. Three-fourths of the foreign bodies in the eye can be removed by the use of the great magnet which Professor Haab had constructed and with which he has successfully performed 150 operations. Fragments of copper, deeply seated, are very difficult to remove even for a most experienced operator. Demarre's pince capulaire was useful in some cases where the foreign body was lodged in the corpus vitreum. Professor Haab, practically aided by his assistant, Dr. Sidler, has lately made successful use of tiny iodoform gelatin rods (*kleine Stäbchen*) to disinfect infected wounds; a certain number of 30 cases thus treated gave unexpectedly good results. The iodoform is first treated with a 5 per cent. carbolic acid solution, filtered, dried, and formed into small rods by means of a proper admixture of gelatin.

Zürich, March 9th.

Medical News.

VACCINATION IN BRISTOL.—The vaccination officer's returns relative to children whose births were registered in Bristol from January to June, 1900, have been recently issued. They show that 4651 births were registered; of these children 2451 were successfully vaccinated, eight were insusceptible, and 426 died unvaccinated; 95 certificates of conscientious objections were issued, 180 vaccinations were medically postponed, and there were 463 removals. During 1899 and 1900 the total number of successful vaccinations amounted to 5073 and 5930 respectively.

BRISTOL GENERAL HOSPITAL.—The annual meeting of the governors of this institution was held on March 11th, under the presidency of the Lord Mayor. The medical report showed that the out-patients numbered 31,441, being 131 in excess of any preceding year. The in-patients numbered 2187, an increase of 87 compared with 1899. The daily number of in-patients was 162. 402 patients had been sent to the Jubilee Convalescent Home. The financial statement showed that the total ordinary revenue amounted to £10,586, or less by £1505 than in 1899. The report alluded to the new out-patients' department, with porter's lodge, which is now being erected at a cost of £7000. These alterations will provide new casualty rooms and better waiting-rooms for the out-patients. The electric light is being installed and a new hot water-supply has just been introduced. The total cost of all these much needed improvements is £9000, for which sum the committee confidently appeal to the public.

OVERCROWDING AT STOCKPORT WORKHOUSE.—A report from the medical officer, read at the meeting of the Stockport Board of Guardians on Feb. 25th, reveals what is called in a newspaper report a "difficulty in consequence of the disgraceful overcrowding of the workhouse hospital." There has been a serious outbreak of influenza in the workhouse, "14 deaths in one week being attributed to the disease," and it was in consequence of the overcrowding impossible to isolate the sufferers. Patients have had to be discharged to the body of the house before they were fit "to sleep there or to be classified with the able-bodied." The medical officer says that he is obliged to act contrary to his judgment and that he cannot hold himself responsible if anything untoward should result. Various steps have been taken to meet the emergency. "Even the lock ward was filled with persons who ought not to have been put in such a place, and

the matron was very distressed that she had no option but to put decent people there." This state of things seems more like a reminiscence of the days of Mr. Bumble and Oliver Twist than a picture of what can be met with to-day, and so it seemed to be felt by most of the guardians, one of whom, however, contended that there was space enough and to spare.

PRESENTATION TO A MEDICAL MAN.—On March 6th the members of the Whitefield district of the St. John Ambulance Association presented Mr. A. J. Young, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., with six volumes of Darwin's works as a mark of appreciation of his services as instructor.

PREVENTION OF CONSUMPTION.—A meeting was held at Tavistock on March 7th in support of the proposed sanatorium for consumptive patients in Devon and Cornwall. Mr. C. C. Brodrick, medical officer of health, presided, and Mr. J. W. Spear, M.P., Dr. F. G. Bushnell, and others gave addresses.—A meeting of the Gloucestershire, Somerset, and Wilts branch of the Society for the Prevention of Consumption and other Forms of Tuberculosis was held at the Guildhall, Bath, on March 6th, under the presidency of the mayor, and among those present were Dr. R. Shingleton Smith and Dr. E. Long Fox. Sir James Crichton Browne was the principal speaker. A resolution pledging the meeting to do all in its power to raise funds for the proposed sanatorium was carried. Dr. L. A. Weatherly stated that the proposed building would contain 60 beds. On the motion of Sir J. Dickson-Poynder, M.P., a hearty vote of thanks was passed to Sir J. Crichton Browne.

VACCINATION IN LEICESTER FROM 1873 TO 1900.—*Apropos* the action of the Government in regard to vaccination, or rather non-vaccination, in the borough of Leicester the following official statistics, presented at a recent meeting of the Leicester Board of Guardians, make interesting reading:—

Year.	Births registered.	Successfully vaccinated born during the year.	Vaccinated by public vaccinators.	Total successfully vaccinated during the year irrespective of date of birth.	Cost.
					£ s. d.
1873	4446	3730	2266	3692	353 7 7
1874	4365	3590	2700	2764	363 1 0
1875	4256	3400	2115	3527	336 12 7
1876	4773	3650	2188	3426	347 17 11
1877	4749	3509	2318	3653	347 0 7½
1878	4777	3260	2106	3372	344 12 0
1879	4695	3086	2036	3146	331 5 0
1880	4660	3010	1904	2886	333 15 1
1881	4712	2948	2172	3417	428 5 0
1882	4855	2660	1807	3106	387 14 3
1883	4819	1732	1300	1958	321 0 7
1884	4849	1700	776	1763	273 16 9
1885	4690	1376	1017	1842	296 13 1
1886	4874	598	569	1122	263 6 11
1887	4693	322	164	471	180 18 6
1888	4815	219	59	314	176 5 6
1889	4786	126	18	172	167 16 8
1890	4697	118	16	131	161 2 7
1891	4765	74	8	92	126 13 9
1892	5816	132	15	133	142 8 3
1893	6010	119	38	249	167 12 8
1894	5995	93	16	153	161 8 0
1895	5961	59	25	75	157 16 5
1896	6165	52	12	77	158 14 4
1897	6235	67	11	81	176 18 8
1898	6164	87	16	111	164 0 2
1899	6274	219	63	219	201 19 1
1900	—*	—*	109	466	842 15 1
Totals ...	132,156	39,936	25,832	43,398	7696 18 0½

* Figures not yet available.

HEALTH OF TAUNTON.—Dr. H. J. Alford, the medical officer of health of the urban and rural districts of Taunton, has just issued his annual reports. He states that 427 deaths occurred in the borough, equal to a rate of 19·2 per 1000. The births were 535, or at the rate of 26·2 per 1000. There were 42 deaths from zymotic diseases, 28 being due to measles. In the rural district there were 283 deaths, equal to a rate of 16·6 per 1000. 382 births were registered—a rate of 21·8 per 1000. During the year 66 patients were admitted to the isolation hospital; only two of the cases were fatal, both patients dying from diphtheria.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. C. J. Rossander, Professor of Ophthalmology in the University of Stockholm.—Dr. Manassein of St. Petersburg, one of the most eminent physicians in Russia. He was born in Kazan in 1841 and after studying medicine in Moscow and Dorpat travelled abroad to various foreign universities. At Tübingen he worked under Professor Hoppe-Seyler and was entrusted by him with the charge of the "castle laboratory." On his return to Russia he became assistant to Professor Botkin, and in 1876 was appointed clinical professor. His chief work lay in experimental pathology. For many years he was editor of the chief Russian medical weekly, the *Vrach*.

METROPOLITAN ASYLUMS BOARD.—At the last meeting of the Metropolitan Asylums Board the Asylums Committee reported that they had received with regret a letter from Mr. G. S. Elliot intimating that in consequence of ill-health he felt compelled to relinquish his office of medical superintendent of Caterham Asylum, which office he had held for upwards of 21 years. At their next meeting the committee stated that they intended to consider the steps to be taken to appoint a successor to Mr. Elliot who desires to vacate his office on June 30th next. In the meantime they recommended that the terms upon which the appointment of a medical superintendent for the Caterham Asylum in succession to Mr. Elliot should be made as follows: salary £600 per annum, rising annually to a maximum of £800. Other emoluments: unfurnished house, coals, gas, and washing. The report was adopted. The chairman of the Finance Committee in his annual statement with regard to the expenditure of the board stated that the total population for which they were responsible on Sept. 30th, 1899, was 15,481; of this number 4117 were the staff and 11,364 patients. The figures for the year 1900 were 14,193, of which 4145 were staff, and 10,048 patients—a decrease of patients by 1316 and an increase of 28 in the staff in attendance. The Local Government Board wrote confirming the appointment of Dr. T. Colcott Fox as dermatologist of the Bridge School for Children.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Cremation.

PROGRESS is being made in the House of Lords with a Bill on the subject of cremation. The measure gives a general power to burial authorities to make provision for the burning of human remains, while requiring that the plans of all crematoria shall be approved by the Local Government Board, and it lays upon the Home Secretary the duty of making regulations as to the conduct of crematoria. One of the clauses provides against interference with the jurisdiction of coroners and says that nothing in the Act shall authorise the burial authority to create or permit a nuisance.

Proposed Exemption of Hospitals from Local Rates.

The Bill to secure the exemption of hospitals from local rates was set down for second reading in the House of Commons on Wednesday, March 13th, but it was not reached until the expiry of the time for the discussion of contested business and consequently no progress was made with it.

HOUSE OF COMMONS.

THURSDAY, MARCH 7TH.

The Fees of Medical Witnesses.

Mr. LAWRENCE asked whether he would explain on what grounds medical witnesses in England and Wales were allowed only one guinea per diem, while in Scotland they were paid two guineas with a further

sum added for each case, and in Ireland the fee of one guinea only required an attendance in court of three hours in the town of residence and was changed to two guineas with travelling allowance in the case of other towns; and whether he would authorise an inquiry into the matter with a view to remedy the inequality of remuneration referred to.—MR. RITCHIE: I do not think the fees of medical witnesses can be touched without dealing at the same time with those of other witnesses, and this I am not prepared to do in view of the largely increased cost of prosecutions which might be the result of such a revision of the present scale.

Vaccination Prosecutions.

SIR MANCHERJEE BHOWNAGGREE asked the Home Secretary if he would state how many prosecutions had been instituted by the vaccination officer of the borough of Bethnal Green since the passing of the Vaccination Act, 1898; how many convictions were obtained, and how many of the fines imposed remained unrecovered; whether he was aware that most of the persons prosecuted were unable to defend themselves effectually owing to ignorance of the procedure provided under Section 2 of the aforementioned Act; and, if so, was he prepared to allow a remission of the fines imposed.—MR. RITCHIE: It would be impossible to give the information asked for in the first three queries without a search of the police-court records or without reference to the guardians, and the work of obtaining the information would involve much time and labour. I have no reason to suppose that persons prosecuted under the Vaccination Acts in Bethnal Green have found any greater difficulty in defending themselves than persons similarly prosecuted in other places, but if the hon. member will furnish me with full details of any case in which he thinks the defendant has suffered injustice I will inquire into it.—SIR MANCHERJEE BHOWNAGGREE asked the President of the Local Government Board whether he was aware that vaccination prosecutions in Bethnal Green and adjacent boroughs were being rigorously pursued against persons who had a conscientious objection to vaccination and had resulted in convictions owing to the difficulty encountered by the accused persons of proving that their objection was based on a conscientious belief; and seeing that in this respect and owing to loss of time and wages which was occasioned by the process of asserting their objection under Section 2 of the Vaccination Act, 1898, that Act did not give full relief to objectors, whether he purposed adopting any steps by which the operation of that Act might be rendered more easy and effective in future.—MR. WALTER LONG: I am not myself aware of difficulties of the kind referred to in the first paragraph of the question and I should regret if any such difficulties were experienced. The answer to the second part of the question must, however, be in the negative.

FRIDAY, MARCH 8TH.

St. John Ambulance Brigade in South Africa.

SIR FREDERICK MILNER asked the Secretary of State for War whether it had been officially decided that members of the St. John Ambulance Brigade who had served in South Africa were not entitled to the war gratuity that was by a recent Order awarded to all classes of troops engaged in the war; and whether, seeing that the members of the St. John Ambulance Brigade had been working with the Royal Army Medical Corps, doing the same duties and bearing the same risks and hardships, and also seeing that 50 out of the 1900 members of the St. John Ambulance Brigade serving in South Africa had died in the execution of their duty, he would reconsider this decision.—MR. BRODRICK: The answer to the first paragraph of the question is in the affirmative. The war gratuity is a military gratuity originally intended as a substitute for prize-money and is not applicable to civilians employed on specific terms during the war. I may remind the hon. member that members of the St. John Ambulance Brigade are paid at considerably higher rates than the corresponding ranks of the Royal Army Medical Corps.

MONDAY, MARCH 11TH.

Dangerous Tea.

MR. HENRY HOBHOUSE asked the Secretary to the Treasury if his attention had been drawn to the fact that quantities of inferior Ceylon and other teas alleged to contain microbial products dangerous to health were being sold in bond in London at prices ranging below 4d. per pound; if the Customs officers had taken and analysed any samples of such teas, and with what results; and what amount had been seized and destroyed during the last 12 months; and, if in the interests of public health he was willing to consent to an inquiry into the best methods of checking the sale of such unwholesome teas by determining some minimum standard of purity and by securing a proper analysis of such teas before they were blended with other teas.—MR. AUSTEN CHAMBERLAIN replied that the Board of Customs had no knowledge of sales in bond of tea containing microbial products dangerous to health. They had power to forbid the introduction of tea that was found on analysis "to be mixed with other substances or exhausted tea" or was declared by the analyst to be "unfit for human food." During the last 12 months 2056 packages were refused admission for home consumption or for use as ship stores. The second paragraph of the question should be addressed to the Local Government Board, which was the authority specially charged by statute with the protection of the public health.

Vaccination in England and Wales.

MR. WALTER LONG, answering a question addressed to him by MR. BARTLEY, said that the latest complete returns with regard to the vaccination of children in England and Wales were those for 1893. They showed that the number of children born in the year was 923,059, and of these 562,737 were successfully vaccinated.

The Government and the Pure Beer Question.

MR. ALFRED DAVIES asked the President of the Local Government Board if his attention had been called to the unanimous resolution passed by the Carmarthenshire Chamber of Agriculture as to the necessity of a Bill being passed to secure purity in beer by laying down therein the ingredients of which beer might be composed and the compelling of brewers at regular intervals to make a return of beer brewed and ingredients used; and, if so, whether he could assure the House of his intention to introduce promptly a Bill carrying out the purport of this resolution.—THE CHANCELLOR of the EXCHEQUER: The President of the Local Government Board has asked me to answer this question, as the resolution aims not only at the exclusion of deleterious ingredients from beer, but at limiting the freedom of brewers to use materials which, though wholesome, are not malt or hops. I can give no such assurance on behalf of the Government as is desired by the hon. member.

The Insanitary Condition of the Central Criminal Court.

MR. J. R. DEWAR and DR. FARQUHARSON addressed questions to the Under Secretary of State for Home Affairs with reference to the insanitary condition of the Central Criminal Court and the indisposition of certain of the judges who had presided in the court.—MR. JESSE COLLINGS, in reply, said that the City of London authorities were responsible for the building in which the Central Criminal Court was held. In order to furnish them with a site on which to build a new court the Government had agreed to surrender Newgate Prison, but in order to make this possible extensive alterations had to be made in prison buildings elsewhere. This involved considerable delay, but it was not the case that the Government were placing difficulties in the way. As a matter of fact, the Prison Commissioners were doing all they could to complete the arrangements which were a necessary preliminary to the discontinuance of Newgate Prison and the transfer of the site to the City of London Corporation.

TUESDAY, MARCH 12TH.

Nursing in Irish Workhouses.

MR. GEORGE WYNDHAM, Chief Secretary for Ireland, made a statement on this subject by way of answer to a question addressed to him. He said that in the interests of the sick poor it was imperatively necessary that the assistant nurse of a small workhouse hospital should be an experienced qualified nurse, as she had entire charge of the sick during the temporary absence of the nurse from any cause, besides having probably to take charge of patients at night in many cases. The opinion of the Local Government Board in Ireland was that no person should be appointed and paid for discharging the duties of a nurse unless she had been sufficiently trained. The Board did not ask that an assistant nurse should be fully trained within the meaning of Section 58 of the Local Government (Ireland) Act, 1898, and the Board had always been glad to encourage boards of guardians to train nurses whenever a systematic course of training had been proposed under sufficient and competent teachers as had been done in some unions. The Board was, however, unable to approve of proposals that inexperienced untrained girls should be permitted to discharge nursing duties and to acquire the status of a nurse without any sufficient or systematic instruction.

ROYAL COMMISSION ON ARSENICAL POISONING.

WEDNESDAY, MARCH 6TH.

THE Royal Commission on Arsenical Poisoning held a meeting on March 6th in one of the rooms of the Westminster Palace Hotel. Lord KELVIN presided and the other Commissioners present were Sir W. S. Church, Sir William Hart Dyke, M.P., Professor Thorpe, Dr. B. A. Whitelegge, and Mr. H. Cosmo Bonsor, with Dr. G. S. Buchanan, secretary to the Commission.

Evidence of Dr. E. W. Hope.

Dr. EDWARD WILLIAM HOPE, professor of public health in the Victoria University and medical officer of health of the City and Port of Liverpool, examined by the CHAIRMAN, said that he had considered the amount of recent exceptional sickness and death attributable to poisoning by arsenic, and he was one of the members of a small subcommittee appointed on Dec. 20th by the Liverpool Medical Institution to inquire into the matter. About 100 cases of poisoning by arsenic which admitted of easy verification were tabulated by this sub-committee. These cases were treated in public institutions and eight of them were fatal, inquests being held in four instances. Besides these definite cases of poisoning and maiming there were many others in which the symptoms were less marked and the verification less easy. Many of these cases occurred in private practice, but some of them in public institutions. The exceptional sickness and death appeared to have been entirely owing to arsenic in beer. Samples of chocolate, syrups, jams, marmalade, and preserved sweets of all kinds were systematically examined; 107 samples carefully and specifically examined during November, December, and January did not contain any trace of arsenic. For many years it had been a routine practice in Liverpool to take samples of all kinds under the Sale of Food and Drugs Acts, special attention being directed to suspected articles. Until recent occurrences the samples of beer taken for analysis had been very few. In October last, however, eight samples of beer and two samples of stout were purchased and reported to be genuine. Some time prior to this Dr. Nathan Raw mentioned to him the increasing number of patients coming under his care at Mill-road Infirmary suffering from what he regarded as alcoholic neuritis. Towards the end of November the announcement was made in the Manchester newspapers that Dr. E. S. Reynolds had cases of arsenical poisoning under his care at Manchester and that Mr. C. H. Tattersall had reported that arsenic had been found in beer purchased in the city. The cases at Mill-road Infirmary already alluded to were at once recognised in the light of this information as cases of arsenical poisoning. As the patients at Mill-road Infirmary were all beer-drinkers there was *prima facie* evidence that their illness was caused, as in Manchester, by the consumption of beer. At that time (Nov. 26th) there was no positive evidence of this in his possession nor was there any evidence as to the source of the arsenic.

Have you any reason to believe that detrimental effects from arsenic

in beer have occurred previous to this outbreak?—It appears so, though there are no analytical reports to support that belief. It is by inference I say there was arsenic in beer some months prior to the 28th November, when it was definitely ascertained to be there.

Peripheral neuritis and alcoholic neuritis were known before this outbreak?—Yes; we are very familiar with alcoholic neuritis in Liverpool.

Do you think that in some cases prior to 1900 the illness may have been really due to arsenic and not merely to alcoholic neuritis?—It is possible that it may have been, but we have no evidence to show that it was the case.

Do you know anything of beer having been suspected and tested for arsenic before the present outbreak?—The practice of the health authorities has been to have beer analysed, but we have never had any report from the analysts to show that there was arsenic in beer until November of last year.

Was the analysis prior to last year of such a character that arsenic would be detected by it?—That I am not in a position to say. The samples were said to be genuine samples and I cannot think that a sample would be certified to be genuine if it contained a deadly poison such as arsenic.

In further examination by the CHAIRMAN Dr. HOPE said that the gravity of the situation was increased by the fact that the consumption of alcohol in its various forms in Liverpool was excessive and in certain areas of the city exerted a material influence upon the public health. According to the verdicts of the coroners' juries many scores of people lost their lives annually from excessive drinking. The consumption of beer in Liverpool approximated to something like three-quarters of a million gallons per week. It was an enormous consumption, but he had no reason to doubt the figure he had given. There were 2223 houses within the city where beer was sold. It was obvious, therefore, that if an article so extensively used was actually at that moment the medium for poisoning by arsenic only the promptest measures could avert a catastrophe. The provisions of the Sale of Food and Drugs Acts did not admit of a sufficiently speedy application to meet the emergency and seizure of the contaminated beer under the Public Health Act so soon as evidence of contamination was available commended itself to him. The inspectors, three in number, under the Sale of Food and Drugs Acts were instructed to procure samples of beer for analysis, but having regard to the utter impossibility of obtaining reports upon samples under these Acts within a period of time which would be of use he requested the analysts to employ the most rapid processes to enable them to determine whether or not arsenic was in the samples, irrespective of the quantity present. The first and obvious duty was to protect the public health by ridding the city of the arsenical beer. At the same time samples were taken with the formalities of the Sale of Food and Drugs Acts to be subsequently dealt with so that proceedings could be taken if it were thought expedient. Samples were taken from 60 different firms. Arsenic or traces of arsenic to a varying extent were found in the beer supplied by 20 of these firms. Out of 237 samples taken from these 20 firms 52 were found to contain arsenic. From the remaining 40 firms 178 samples were taken and all of them were entirely free from contamination. Many of the brewing firms had themselves employed analysts and had anticipated action by destroying the beer. In these ways the brews implicated were speedily detected and large quantities of contaminated or suspected beer were poured into the sewers. There did not appear to have been any neglect or delay in the destruction of the arsenicated beer excepting in two cases, in one of which it appeared that the beer had still been retained upon the premises with a view to recover its value, an objectionable and most improper proceeding. The total quantity of the beer destroyed was 257 000 gallons. Had they proceeded under the Sale of Food and Drugs Acts he calculated that there would have been a delay of between three and four weeks in getting rid of the beer. It must not be overlooked that at the end of November and the beginning of December all the chemical laboratories (not only those of the public analysts) were overwhelmed with samples of beer, the brewers themselves sending large numbers of samples. So far as the city analysts were concerned it would not have been possible for them to have examined one-tenth of the number of samples for a quantitative analysis which were dealt with in the manner described. The source of the arsenic was speedily traced. It very soon became evident that brewers who had been using glucose manufactured by Messrs. Bostock and Company, Limited (a firm of manufacturers in Garston, a few miles from Liverpool), were those whose beer contained arsenic; beer manufactured by those who had not used Bostock's sugar was free from arsenic. It transpired that brewing firms whose beer was not found to contain arsenic were customers of Bostock's but it was stated that they did not use Bostock's sugar. On Nov. 26th a circular was issued by Messrs. Bostock asking their customers to suspend the use of the glucose pending further investigations, and on Nov. 30th they sent a further circular asking for the return of sugars which their customers held. The source of the arsenic was subsequently shown to have been sulphuric acid supplied by Messrs. Nicholson and Sons of Leeds, in circumstances which no doubt had come before the Commission. Whilst glucose made from this poisonous sulphuric acid was by far the most important source of the arsenic in beer, arsenic in small quantity and derived from the coke or coal used in the kiln was found in malt, and traces of it were found in the beer made from this malt. The quantity, however, was unimportant in comparison with that in the glucose. The quantity in the glucose was estimated by the analysts to be 4½ grains to the pound in one sample and 9½ grains to the pound in another sample. The first sample would, the analysts estimated, represent from one-third of a grain to one grain of arsenic per gallon of beer, and the second presumably more than double those amounts. It had been stated in view of minute traces of arsenic being found in malt and elsewhere that a minimum permissible quantity of arsenic should be legalised. It would be well to remember, however, that even assuming that one-fiftieth or one-hundredth part of a grain in a gallon would do no immediate harm, yet fortunately it was the exception to find any arsenic present, and there was no necessity therefore that there should be any, and he believed that it would be a fatal mistake in more senses than one to permit the presence of any amount, however small, of so poisonous a material as arsenic. It, therefore, was well established that exceptional sickness and death had been due in Liverpool to arsenic in beer, but no arsenic had been found in any other article of food or drink whatever. It was also shown that the arsenic did find its way into the beer by means of glucose, in the preparation of which sulphuric acid containing arsenic was used, and it also appeared that in the process of drying malt might become contaminated with arsenic in minute quantities. The inference was, therefore, that the fewer articles used in the manufacture of beer the better, since each one might possibly become contaminated. In any case there could be no objection to the brewers making known in the public interests the materials from which their beer was manufactured, a knowledge which would give the public the option of selecting beer made from ingredients which they might consider the most wholesome and least liable to contamination. The following facts were plain, viz.:—

1. That a poisonous arsenical acid was supplied in the manufacture of a material used in making beer.

2. That that acid, which in any case might be suspected, was received and used in the manufacture of glucose without being tested or examined in any way for arsenic.

3. That that glucose in its turn was used by brewers for the manufacture of beer without examination of any kind for arsenic, and the beer so distributed was the cause of illness, maiming, and death.

Hence it was imperative that a strict supervision should be exercised over all the material used in the manufacture of beer.

Brewers supplying either retailers, licensees, or managers of public-houses with beer, should send with the beer a warranty showing the materials employed in its manufacture and guaranteeing the purity of each.

Evidence of Mr. A. G. Salamon.

Mr. ALFRED GORDON SALAMON, a Vice-President of the Society of Chemical Industry and member of the Council of the Institute of Chemistry, was the next witness to give evidence. He explained that he had had 17 years' practical experience of the technology of brewing and had been largely employed by the brewers throughout the country to advise them as to the best materials to employ for arriving at satisfactory fermentation. On Nov. 17th he received a letter from Mr. James G. Groves, M.P., of Messrs. Groves and Whitnall, Limited, Regent-road Brewery, Salford, saying that he had sent on samples of his own and other local beers for analysis in order to test the type of alcohol present in them. In a letter received on Nov. 20th Mr. Groves said he wished to know whether any of the samples showed traces of an irritant poisoning such as lead or arsenic. After receiving this letter he and another witness proceeded to test for arsenic and found that several of the samples contained it, not only in traces, but in notable quantities. Witness then described in detail the action taken by himself and other experts at the instance of the Manchester Brewers' Association. Having done so he said that on Nov. 29th he received from Mr. C. H. Tattersall 15 samples of raw materials which were being employed by Messrs. Bostock at the time of Mr. Tattersall's visit in the manufacture of glucose and invert sugar and also of the finished products as they were being sent to the brewers. Careful analysis of these samples gave the following results: sulphurous acid free from arsenic, sago flower free from arsenic, tapioca flower free from arsenic, whiting free from arsenic, cane sugar free from arsenic, glucose grossly contaminated with arsenic, invert sugar grossly contaminated with arsenic, four more samples of glucose grossly contaminated with arsenic, invert sugar grossly contaminated with arsenic, maize meal free from arsenic, glucose grossly contaminated, and sulphuric acid very dangerously loaded with arsenic. He had made a quantitative estimation of the arsenic in these samples and as a result he had no hesitation in saying that having regard to the statement of the medical authorities as to the quantities necessary to produce a toxic effect the brewing sugars when used in normal quantity in the production of beer would be dangerously poisonous. In the opinion of witness the employment of the poisonous sulphuric acid fully accounted for the results disclosed. He found to his surprise that in no single case was Bostock's sugar alone employed. It would appear to be the custom in Manchester to employ two and sometimes three different makes of brewing sugar, both glucose and invert sugar, and that sometimes in the same brew. But for this custom the amount of poisonous beer brewed during the epidemic would have been far greater in certain breweries even than had been the case. The custom permitted witness to compare the price paid for Bostock's sugar with that paid to other makers, and he was in a position positively to assert, after examination of hundreds of invoices which were freely placed at his disposal by the Manchester brewers, that the Bostock sugar was not in any way cheaper nor were the conditions of payment more favourable to the brewer than that of the other and best makes upon the market. An inspection of the various sugars, both glucose and invert, made it impossible to distinguish the different makes, and those of Messrs. Bostock were of extremely good appearance. Indeed, no suspicion could attach to the appearance of the Bostock sugars. Witness was in a position to assert that the arsenical contamination of beers in poisonous quantities in Manchester and its district was absolutely at an end, and the result of his investigations proved without any doubt whatever that it was solely occasioned by the use of Bostock's sugars. In the course of the inquiry of the commission of experts the presence of traces of arsenic in malt and other brewing materials had become manifest. This commission found it necessary to fully investigate this question of traces, which was distinct from that of poisonous contamination; the work involved had been very great and was not yet complete, and, therefore, witness asked that his evidence on this point might be deferred. In the course of cross-examination Mr. Salamon said that there was no difficulty in ridding malt of all arsenic. When asked by Sir William Church whether he had formed any opinion as to what should be considered a negligible quantity of arsenic in beer he replied that he should rather say "none at all." It was quite feasible for the brewer to brew beer which contained no arsenic whatever, and as a matter of fact the bulk of the beer made in England did not contain a trace of arsenic.

The Commission then adjourned.

THURSDAY, MARCH 7TH.

There was another meeting of the Commission on March 7th, at the same place, Lord KELVIN again presiding.

Mr. Salamon further Examined.

Mr. SALAMON presented himself for further examination, and in reply to Professor THORPE said that his inquiries had not gone far enough to enable him to form an opinion on the point whether there was any connexion between neuritis and the higher alcohols. He had been associated with the analysis of beer for many years, and until this outbreak he had never tested samples of beer for arsenic simply because the idea had never occurred to him. He had looked for selenium in materials sent to him, but he was not yet in a position to give evidence on the subject. He had not completed a quantitative determination. As far as he had gone he had only been able to determine the presence of minute traces in certain substances, but he would not even like to say to-day that it was selenium. He had not gone sufficiently far to speak with any certainty on the subject. He might say that at present he had not found selenium in beer.

In reply to the CHAIRMAN Mr. SALAMON gave the opinion that the risk of arsenic in malt could be avoided by abstinence from the use of gas coke in the process of kilning and by employment of anthracite.

Evidence of Mr. J. G. Groves.

Mr. JAMES G. GROVES, M.P., chairman and managing director of Messrs. Groves and Whitnall, brewers at Salford and Manchester, examined by the CHAIRMAN, said that the scope of their business was principally confined to Manchester and Salford and their output was considerably the largest in these two towns. Until November last he had no reason whatever to doubt the purity of their beers. On the 12th of that month Mr. R. D. Cran, one of the district medical officers of Salford, called upon him with reference to the amount of sickness in his district. Mr. Cran described the sickness as alcoholic neuritis and said it was "alarming and there were many deaths traceable to it"; he considered that the illness was principally localised amongst the drinkers of beer and his theory was that it was due to some of the higher alcohols. Witness suggested that this was more indicative of spirit- than beer-drinking, but Mr. Cran replied that the evidence very strongly pointed to beer-drinkers and not spirit-drinkers, although the mischief might be assisted by the consumption of spirits. On the 24th he called upon Dr. Miller, Ph.D., F.I.C., F.C.S., and engaged him to examine all their beers in stock as well as brewing materials and all brews before delivery. From that moment they did not send out any beer which had not been analysed and certified by Dr. Miller. They took every precaution to stop the sale of the beer in the hands of their customers until they had been able to have samples of it analysed. The beer in customers' hands of all brews that were not certified free from arsenic they either turned into the sewers or brought back to the brewery to be destroyed. Altogether the contents of many thousands of barrels were destroyed, the value of the beer and stout thus dealt with being not less than £15,000. They also took every precaution with regard to having the brewery plant thoroughly purified and examined to see that there was no remaining contamination. Mr. Salamon had examined their plant and taken shavings from the insides of their casks, which after analysis he reported to be free from any trace of arsenic. Since Nov. 26th a copy certificate of purity had been attached to each barrel of beer and stout sent out from their breweries. It was in these terms: "I certify the purity of the brew of beer from which this cask is filled," and was signed by Dr. Miller. The form was submitted to the special sub-committee of the Manchester Brewers' Central Association who approved it and recommended it for general adoption. He might say that Bostock's was the only sugar in which they had discovered arsenic. For some time previous to August, 1900, they had not used Bostock's glucose, but that of other manufacturers. The firm with whom they were then dealing being very busy asked them to suspend their orders and they did so to oblige them, and in consequence they commenced again to use Bostock's glucose. Bostock's invert was only used for priming. Since discarding Bostock's sugar they had required certificates of purity to be furnished to them of all materials used in brewing and they had conducted careful and minute analyses themselves. Early in December, Mr. Estcourt, the public analyst for Manchester, publicly reported traces of arsenic in malt; this caused his firm to submit samples to him and to Dr. Miller and from that time they had discarded doubtful samples and brewed only from those certified safe. They had found that malts cured with ordinary gas coke were generally contaminated and those with anthracite coal were free or practically so. Brushing and polishing the malt made a great improvement and was in his opinion a necessary safeguard. They required this to be done with all their malts and they insisted on a guarantee of purity from the maltsters with each consignment. So far as sugar was concerned, his opinion was that the danger in their beers ceased absolutely on Nov. 23rd with the discontinuance of the Messrs Bostock's materials. During 1900 the consumption of Bostock's glucose as compared with the other glucoses used was 8 per cent. of the total, and almost the whole of that consumption took place during the two and three months between August and November. The amount of invert used for priming was between one and a half and two pounds per barrel.

By Sir WILLIAM HART DYKE: So far as his knowledge went he should say without hesitation that the exceptional sickness and death had been due entirely to the use of Bostock's sugars. He should say that the small traces of arsenic found in malt would not be detrimental to the public health. His firm got associated with this arsenic scare at a very early stage and the public at the first jumped to the conclusion that theirs was the only beer contaminated. It took a long time to eradicate a misconception of this kind and in this way his firm had suffered much more than they deserved. The inquiries that had taken place had opened the eyes of the scientific world to facts not previously recognised, and his firm and the brewing trade generally were alive to the lessons to be learned and he hoped were profiting by them. He believed that the brewers in their own interest would take such precautions as would prevent the possibility of such a misfortune recurring, even if Parliament took no action. What had taken place had created a new situation and in the future no brewer would be able to shelter himself under the excuse of carelessness, or want of knowledge.

By Sir WILLIAM CHURCH: Before Mr. Cran called upon him he had seen Dr. Forsyth the club doctor, who had pointed out that more than the average number of the brewery employés were "off" with a form of influenza, but it did not occur to witness that the illness was due to anything in the beer. The employés were allowed three pints of light beer per day, but of course the outside men who delivered the beer to customers would drink more than that quantity in the course of a day, for it was the habit of customers to treat them. His firm had experienced no difficulty in getting certificates of purity from the sugar-makers. The maltsters were somewhat alarmed at first and some of them hesitated, but the firm insisted on the certificates as a condition of custom and they got them. The guarantee was that the material should be free from contamination by arsenic or other deleterious substance.

By Professor THORPE: The certificate of purity issued by Dr. Miller was a warranty to the firm and they passed it on to the customer, not with the idea of getting rid of any responsibility in the matter, but of assuring the customer that the firm had got the best expert assistance.

On the conclusion of his evidence Mr. Groves was congratulated by the CHAIRMAN on the promptness and thoroughness of the action he had taken and on its success.

Evidence of Mr. E. W. T. Jones.

Mr. E. W. T. JONES, F.I.C., public analyst for the county of Stafford and the boroughs of Wolverhampton, Walsall, Kidderminster, and Newcastle-under-Lyne, was next examined. In the course of his evidence he said that since the beginning of December last he had tested about 300 samples of beer, representing about 100 brewers, including about 30 home brewers. 26 samples were arsenical to the extent of from one-sixtieth to just over half a grain per gallon, calculated as arsenious oxide. 33 samples contained arsenic computed to be well under one-twentieth of a grain per gallon. Of these, 15 were from one brewer who had discontinued the use of Bostock's glucose, and in this case the arsenic found had now been proved to be due to arsenical malt. The cause of the slight amount of arsenic in the other 18 samples he had had no means of investigating, but he believed Bostock sugar had been used by all these brewers. None of the home-brewed beers were arsenical. He had tested 13 samples of malts, eight of which were from one maltster. Three were decidedly arsenical, containing from one-fortieth to one-fiftieth of a grain of arsenious oxide per pound. The remaining five were slightly arsenical, containing apparently less than one-one-hundredth of a grain per pound. Five other samples from three maltsters were free from arsenic. He had found malt made with a certain fuel decidedly arsenical. This fuel was a certain Yorkshire gas coke. He had no analytical experience as to the fuel itself. He had not examined any of the coals and coke in that district for arsenic, but he concluded indirectly that they were not arsenical to any important extent, as he had found no malt arsenical which had been made in that district. He had not had any arsenical beer into the composition of which Bostock sugar had not entered, except in one instance, and that was where the malt was prepared from Yorkshire gas coke. He had tested 22 brewing sugars, representing about eight different makes, and in no case had he detected arsenic except in Bostock's sugar, of which he had had two samples. One contained 0·023 per cent., and the other 0·021 per cent. of arsenious oxide, say, one-tenth of a grain per ounce. A sample of Bostock glucose sent to him privately contained 0·05 per cent. of arsenious oxide. He had tested two samples of cane sugar as used in brewing and both were free from arsenic. 25 samples of treacle and golden syrup were tested, all of which were found free from arsenic. Some were adulterated with starch glucose syrup. He tested 17 samples of jams, marmalade, and mincemeat, and found them all free from arsenic. 27 samples of confectionery were tested, and all were found free from arsenic. He tested two samples of bisulphide of lime, one of sulphurous acid, and one of finings; all were free from arsenic. His method for testing arsenic in beer was practically the same as that recommended by the experts of the Manchester Brewers' Association. He had satisfied himself that by this test he should not pass beer containing more than one-twentieth of a grain per gallon and possibly should exclude beer containing a smaller quantity than one-twentieth.

In reply to Sir WILLIAM CHURCH witness said that when beer was submitted to him under the provisions of the Sale of Food and Drugs Acts he had looked for salt and sulphuric acid but not for arsenic, but when the Chairman questioned him as to the desirability of legislation directed against poison as well as mere adulteration Mr. Jones expressed the view that the field would be too wide for such legislation.

The Commission adjourned until Wednesday, March 13th.

BOOKS, ETC., RECEIVED.

AMERICAN MEDICAL ASSOCIATION PRESS, Chicago.

Medico-Surgical Aspects of the Spanish-American War. By Lieutenant-Colonel Dr. Nicholas Senn. Price not stated.

AMERICAN ORTHOPEDIC ASSOCIATION, Philadelphia.

Transactions of the Fourteenth Session of the American Orthopedic Association. Price not stated.

BEMROSE AND SONS, Old Bailey, London.

Mentone as a Health and Pleasure Resort. By D. W. Samways, M.A., M.D., B.C., &c. Price 3s. 6d.

BROADBENT, ALBERT, Manchester, S.E.

Science in the Daily Meal. Second edition. Price 3d. Also Fruits, Nuts, and Vegetables; their Uses as Food and Medicine. Price 6d. Both by Albert Broadbent, F.R.H.S.

CASSELL AND COMPANY, London.

Oral Sepsis as a Cause of "Septic Gastritis," "Toxic Neuritis," and other Septic Conditions. By William Hunter, M.D., F.R.C.P. Price 3s. 6d.

CHICAGO MEDICAL PRESS Co., State-street, Chicago.
A Systematic Treatise on Materia Medica and Therapeutics, with Reference to the Most Direct Action of Drugs. By Finley Ellingwood, M.D. Price 25.

CHURCHILL, J. & A., Great Marlborough-street, London.
Chloroform: A Manual for Students and Practitioners. By Edward Lawrie, M.B.Edin., M.R.C.S. Eng. Price 5s. net.

DORNAN, W. J., Philadelphia.
Transactions of the American Gynecological Society for the Year 1900. Price not stated.

EVERETT AND Co., Essex-street, Strand, London.
Dopes. A Criticism of American Arts and English Efforts. By "Nathaniel Gubbins." Price 1s. net.

FANNIN AND Co., Grafton-street, Dublin.
Transactions of the Royal Academy of Medicine in Ireland. Vol. xviii. Edited by John B. Story, M.B., F.R.C.S. Price not stated.

FOWLER AND Co., Ludgate-circus, London.
The Revised Twentieth Century Phrenology. By J. W. Taylor Price 3s. 6d.

GUTENBERG PRESS, Fleet-street, London.
What to Eat and Drink. By Charles Hyatt-Woolf. Price 1s.

HÖLDER, ALFRED, Wien.
Specielle Pathologie und Therapie: Die Lepra. By Dr. Victor Babes. Price 10 marks 60 pfennige.
Specielle Pathologie und Therapie: Die Pellagra. By Dr. Victor Babes and Dr. V. Sion. Price 3 marks 60 pfennige.

LEWIS, H. K., Gower-street, London.
Diseases of the Nose and Throat. By F. de Havilland Hall, M.D., F.R.C.P. Lond., and Herbert Tilley, M.D., B.S. Lond., F.R.C.S. Eng. Second edition. Price 10s. 6d.

LIBRAIRIE OCTAVE DOIN, Place de l'Odéon, Paris.
Affections Chirurgicales du Tronc: Mamelles Organes Génitaux de la Femme. By Dr. Polaillon. Price not stated.

LIPPINCOTT COMPANY, Southampton-street, Strand, London.
Diseases of the Nervous System. By H. Oppenheim, M.D. Translated by Edward E. Mayer, A.M., M.D. Price 21s. net.
A Clinical Treatise on Fractures. By William Barton Hopkins, M.D. Price 18s. net.

LONGMANS, GREEN, AND Co., Paternoster-row, London.
Ballast: a Novel. By Myra Swan. Price 6s.
The Annual Charities Register and Digest for 1901. With an Introduction by C. S. Loch. Price 4s.

MALOINE, A., Rue de l'École de Médecine, Paris.
La Peste d'Alexandrie en 1899. Par le Dr. A. Valassopoulo. Price not stated.

MEGGY, THOMPSON AND Co., High-street, Chelmsford.
Report on the Water-supply of the County of Essex. By John C. Thresh, D.Sc. Lond., M.D. Vic., D.P.H. Camb. Price 3s. 6d.

REBMAN, LIMITED, Shaftesbury-avenue, London.
A Text-Book of Pharmacology and Therapeutics. By Arthur R. Cushny, M.A., M.D. Aberd. Second edition, revised and enlarged. Price 17s. 6d. net.
The Medical Examination for Life Insurance and its Associated Clinical Methods. By Charles Lyman Greene, M.D. Price 17s. net.
Text-Book of Histology, including the Microscopic Technic. By Dr. Philipp Stöhr. Translated by Dr. Emma L. Bilstein. Edited by Dr. Alfred Schaper. Price 14s. net.

SAUNDERS AND Co., Strand, London.
Obstetric and Gynecological Nursing. By Edward P. Davis, A.M., M.D. Price 8s. net.
Saunders' Year Book of Medicine and Surgery. In two vols. Edited by George M. Gould, M.D. Price 26s. net.
The Treatment of Fractures. By Charles Locke Scudder, M.D., and Frederic J. Cotton, M.D. Second edition. Price 19s.
Practical Points in Nursing for Nurses in Private Practice. By Emily A. M. Stoney. Second edition. Price 7s. 6d. net.

SMITH, ELDER, AND Co., Waterloo-place, London.
An Index of Symptoms as a Clue to Diagnosis. By Ralph Winnington Leftwich, M.D. Second edition. Price 6s.

SIMPKIN, MARSHALL, AND Co., London.
The "A 1" Cookery Book. By H. N. L. Price 2s. 6d.

TEUBNER, B. G., Leipzig.
Die Moderne Heilwissenschaft, Wesen und Grenzen des Arztlichen Wissens. Von Dr. Edmund Biernacki. Autorisierte Uebersetzung von Dr. S. Ebel. Price 1 mark 25 pfennige.

WHITAKER AND SONS, Warwick-lane, E.C.
Whitaker's Peerage for the year 1901. Price 2s. 6d.

WILSON, EFFINGHAM, Royal Exchange, London.
The Law of Joint-Stock Companies, with Directions for Forming a Company. By James Walter Smith, LL.D. 26th Thousand. Price 2s. net.
A Handy Book on the Law of Bills, Cheques, Notes, and I.O.U.'s. By James Walter Smith, Esq., LL.D., B.A., Barrister-at-law. Sixty-third Thousand. Price 1s. 6d. net.
Dictionary of Stock Exchange Terms. By W. G. Cordingley. Price 2s. 6d. net.

WRIGHT AND Co., Stone-bridge, Bristol.
The Medical Annual: a Year Book of Treatment and Practitioner's Index for 1901. Price 7s. 6d. net.
Sidmouth as a Health Resort and a Place of Residence. By A. Macindoe, M.D., D.P.H. Price 1s.
"First Aid" to the Injured and Sick. An Ambulance Handbook. By F. J. Warwick, B.A., M.B. Cantab., M.R.C.S., L.S.A., and A. C. Tunstall, M.D., F.R.C.S. Ed. Price 2s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALFORD, CHARLES EDWARD, M.R.C.S., L.S.A., has been re-appointed District Medical Officer by the Chard Board of Guardians.

ALLEN, W. T. D., M.B., B.Ch. Irel., has been appointed District Medical Officer of the Union, Liverpool.

BASSETT, W. F., M.R.C.S., L.S.A. Lond., has been appointed Deputy Licensing Magistrate for the District of Bathurst, New South Wales.

BLICK, GRAHAM T. B., L.R.C.P. Lond., M.R.C.S., has been appointed District Medical Officer at Broome, West Australia.

BULTEEL, C. E., M.R.C.S., L.R.C.P., has been appointed Assistant House Physician at King's College Hospital, London.

CALLAN, P., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Public Vaccinator for the District of Thames, New Zealand.

CARLÉ, F. C., M.R.C.S., L.R.C.P., has been appointed House Surgeon at King's College Hospital, London.

CLEMONS, G. E., M.D. Edin., has been appointed Honorary Medical Officer to the Launceston General Hospital, Tasmania.

COOKE, R. S., M.R.C.S., L.R.C.P., has been appointed House Surgeon at King's College Hospital, London.

COOPER, CHARLES EDWARD, B.A., M.B., B.C. Cantab., has been re-appointed Medical Officer of Health for the Ivybridge (Devon District by the Ivybridge Urban District Council.

DALBY, AUGUSTUS WILLIAM, L.R.C.P., L.R.C.S. Edin., has been re-appointed Medical Officer of Health for the Frome Rural District Council.

DUNLOP, THOMAS, M.B., C.M. Edin., D.P.H. Camb., has been re-appointed Medical Officer of Health to the Aldershot Urban District.

EATON, OLIVER, L.R.C.P. Lond., M.R.C.S., D.P.H. Cantab., has been appointed Medical Officer to the Exeter Port Sanitary Authority.

EDMUNDS, A., M.R.C.S., L.R.C.P., has been appointed House Surgeon at King's College Hospital, London.

FLOOD, RICHARD F., L.R.C.P. Edin., L.R.C.S. Edin., L.M., &c., has been appointed House Surgeon to the West Herts Infirmary, Hemel Hempstead.

GOODING, MATTHEW RICHARD, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer to the Barnstaple Port Sanitary Authority.

HAYDON, ARTHUR GEORGE, M.B., M.R.C.S., has been appointed a Civil Surgeon, Royal Army Medical Corps, and Medical Officer in charge of the Norfolk Regiment.

HOLMES, L. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Honorary Medical Officer to the Launceston General Hospital, Tasmania.

JEFFERISS, F. B., M.R.C.S., L.R.C.P., has been appointed Senior House Physician at King's College Hospital, London.

KELLY, W. A., L.K.Q.C.P., L.R.C.S. Irel, has been appointed Government Medical Officer at Wingham, New South Wales.

KENDALL, BERNARD CHARLES, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer to the Helston (Cornwall) Public Dispensary.

LANDER, FRANCIS J., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Surgeon to the Nottingham General Dispensary.

LIDDELL, G., M.B., M.S. Edin., has been appointed Public Vaccinator for the District of Otepopo, New Zealand.

LITTLEJOHN, R. S., M.D. Edin., has been appointed Visiting Medical Officer, Thomas Walker Convalescent Hospital, Concord, New South Wales.

MACBIRNIE, S., M.B., Ch.M. Glasg., has been appointed Medical Superintendent to the Yarra Bend Lunatic Asylum, Victoria, Australia.

MCCLEARY, G. F., B.A., M.B., D.P.H. Cantab., has been appointed Medical Officer of Health for the Metropolitan Borough of Battersea.

MARTIN, JAMES PIRIE, M.R.C.S., L.R.C.P. Lond., has been appointed Public Vaccinator for the Box District by the Chippenham Board of Guardians, vice J. A. Mulville Thomson, resigned.

MAXWELL, W. W., M.R.C.S., L.R.C.P., has been appointed Assistant House Accoucheur at King's College Hospital, London.

MUNDEN, CHARLES, M.R.C.S., L.S.A., has been re-appointed District Medical Officer by the Chard Board of Guardians.

PARDEY, JAMES MCIMERY, M.B., Ch.B. Melb., has been appointed Honorary Medical Officer to the Launceston General Hospital, Tasmania.

PARKER, CHARLES, M.B., Ch M. Edin., has been appointed Honorary Medical Officer to the Launceston General Hospital, Tasmania.

PATTON, A. S., M.D. Dub., has been appointed Surgeon to the Normanton Hospital, Queensland.

RICHARDSON, RICHARD TIPPETTS, M.R.C.S., L.S.A. Lond., has been re-appointed Medical Officer of Health for the Trowbridge (Wilts) Urban District Council.

ROE, JAMES M., M.B. Syd., has been appointed Surgeon to the Hospital at Mareeba, Queensland.

SAUNDERS, E. M., M.R.C.S., L.R.C.P., has been appointed House Accoucheur at King's College Hospital, London.

SHAND, J. C., M.B. Glasg., has been appointed Government Medical Officer at Penrith, New South Wales.

SHORTER, H. L. A., M.B., M.Ch. Syd., has been appointed Medical Officer at Mount Garnet, Queensland.

SLEIGH, H. P., M.B., C.M. Aberd., has been appointed House Physician to the General Infirmary at Leeds.

STEVENS, A. N., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Royal Boscombe and West Hants Hospital.

STEVENS, W. W., M.B., Ch.M. Syd., has been appointed Junior Medical Officer in the Lunacy Department, New South Wales.

STUART, W. L., M.R.C.S., L.R.C.P., has been appointed Junior House Physician at King's College Hospital, London.

TAYLOR, C. J., M.B. Syd., has been appointed Medical Officer at Georgetown, Queensland.

TRAVERS, FREDERICK T., M.B., B.S. Lond., F.R.C.S.E., has been appointed an Honorary Surgeon to the West Kent General Hospital, Maidstone.

WADE, REGINALD, M.R.C.S., L.S.A. Lond., has been re-appointed Medical Officer of Health for the Highbridge (Somerset) Urban District Council.

WEARNE, WALTER, M.R.C.S., L.S.A., has been re-appointed Medical Officer to the Helston (Cornwall) Public Dispensary.

WEBBER, W. WOOLMINGTON, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Crewkerne District of the Chard Union.

WILLIAMS, T. K., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Dudley Dispensary.

WYNNE, W. C. P., L.R.C.P., L.R.C.S. Irel., has been appointed Certifying Surgeon under the Factory Acts for the Oxted District of Surrey.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BOROUGH HOSPITAL, BIRKENHEAD.—Senior and also Junior Resident House Surgeon. Salary £100 and £80 respectively per annum, with board and washing.

BOROUGH HOSPITAL, Bootle, Liverpool.—Junior Resident. Salary £80 per annum, with board, &c.

BRISTOL GENERAL HOSPITAL.—Assistant House and a Casualty House Surgeon. Salary £50 per annum, with board, residence, &c.

CHELSEA, BROMPTON, AND BELGRAVE DISPENSARY, 41, Sloane-square, S.W.—Honorary Physician.

CHORLTON-UPON-MEDLOCK DISPENSARY, Manchester.—Resident House Surgeon, unmarried. Salary £130 per annum, with furnished rooms and attendance. Also Honorary Medical Officer.

CITY PAYNE HOSPITAL, Lodge-road, Birmingham.—Assistant Medical Officer. Salary £120 per annum, with board, residence, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park.—Physician to the out-patients. Also Second House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for six months. Salary £30, with board, residence, and washing.

EAST SUFFOLK AND IPSWICH HOSPITAL.—Two House Surgeons, unmarried. Salaries £110 for Senior and £80 for Second House Surgeon, with board, lodging, and washing.

GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer. Salary £100 per annum, with residence, board, and washing.

GREAT NORTHERN CENTRAL HOSPITAL.—Junior House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing.

GUEST HOSPITAL, Dudley.—Senior Resident Medical Officer. Salary £100 per annum, increasing to £120, with board, residence, attendance, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months, with honorarium of £25.

HOSPITAL FOR WOMEN, Soho-square.—Clinical Assistants. Also House Physician for six months. Salary £30.

HULME DISPENSARY, Stretford-road, Manchester.—House Surgeon. Salary £150 per annum, with apartments, attendance, coal, and gas.

ISLE OF WIGHT UNION WORKHOUSE.—Medical Officer. Salary £90 per annum.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

KING'S COLLEGE HOSPITAL, Lincoln's Inn-fields, W.C.—Clinical Pathologist.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar. Salary £100 per annum.

LONDON LOCK HOSPITAL, Harrow-road, W.—Anæsthetist to the Female Hospital.

LONDON OPEN-AIR SANATORIUM, Pinewood, near Bracknell, Berkshire.—Resident Physician, unmarried. Salary £200, with furnished apartments, board, attendance, and washing.

LUNATIC ASYLUM, Isle of Man.—Assistant Medical Officer. Salary £100 per annum, with apartments, washing, and board.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried, for six months, eligible for election as Senior for another six months. Salary at rate of £80 a year as Junior and £100 a year as Senior, with board and lodging.

MANCHESTER PORT SANITARY AUTHORITY.—Port Medical Officer. Salary £350 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence. Also Assistant Director in the Clinical Laboratory. Salary £50 per annum.

METROPOLITAN EAR, NOSE, AND THROAT HOSPITAL, Grafton-street, Fitzroy-square, W.—Anæsthetist.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Soho-square, W.—Resident Medical Officer for six months. Salary at the rate of £40 per annum, with board and laundry.

NORFOLK AND NORWICH HOSPITAL.—House Physician for two years. Salary £80 per annum, with board, residence, &c.

NORTHAMPTON GENERAL INFIRMARY.—Physician, not under twenty-five years of age.

NORTH LONDON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.—Clinical Assistant for six months. Honorarium at the rate of £35 per annum.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Dental Surgeon.

PATHOLOGICAL DEPARTMENT YORKSHIRE COLLEGE, Leeds.—Junior Demonstrator. Salary £120.

PENGE URBAN DISTRICT.—Medical Officer of Health. Salary £100 per annum.

PRESTON ROYAL INFIRMARY.—Junior and also Assistant House Surgeon. Salaries £80 and £60 per annum respectively, with board, lodging, and washing, &c.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodging.

ROYAL SEA BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £60 per annum, with board and residence.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £80, board, residence, and laundry.

RURAL DISTRICT COUNCILS OF EPSOM AND DORKING AND THE URBAN DISTRICT COUNCILS OF CARSHALTON, DORKING, EPSOM, AND LEATHERHEAD.—Medical Officer of Health.

ST. OLAVE'S UNION.—Dispenser of Medicines and Medical Officer's Clerk. Salary £90 per annum, rising to £110 per annum at the expiration of four years of service, with rations.

SOMERSET HOSPITAL, Cape Town.—Junior Resident Surgeon. Salary £150 per annum, rations and quarters.

STOCKPORT INFIRMARY.—Junior Assistant House-Surgeon for six months. Salary at rate of £24 per annum, with board, washing, and residence.

STROUD UNION.—District Medical Officer. Salary £74 per annum, with fees.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies for Certifying Surgeons under the Factory Acts at Rockcorry, in the County of Monaghan; at King's Lynn, in the County of Norfolk; and at Coleshill, in the County of Warwick.

THROAT HOSPITAL, Golden-square, W.—Non-resident House Surgeon. Salary £100 per annum, with lunch.

TOTTENHAM HOSPITAL.—Honorary Surgeon. Also Assistant Honorary Physician.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, furnished apartments, gas, firing, and attendance.

UNIVERSITY OF LONDON.—Examiners.

VICTORIA HOSPITAL FOR CHILDREN, Chelsea, S.W., and the VICTORIA CONVALESCENT HOME, Broadstairs.—House Physician for six months. Honorarium of £25, and board and lodging in the Hospital.

Births, Marriages, and Deaths.

BIRTHS.

BROWN.—On March 1st, at Museum-street, Ipswich, the wife of H. H. Brown, M.D., F.R.C.S., of a son.

EDWARDS.—On March 5th, at Halling, Rochester, the wife of Arthur Spencer Edwards, M.B., C.M. Edin., of a son.

MICHELS.—On March 10th, at Finsbury-square, E.C., the wife of R. Michels, M.D., F.R.C.S., of a son.

MURISON.—On March 5th, at Pier-road, Erith, Kent, the wife of W. R. Murison, L.R.C.P. & S. Edin., of a son.

WADE.—On March 6th, at Royal-terrace, Southend-on-Sea, the wife of Charles H. Wade, M.A. Oxon., L.R.C.P., M.R.C.S., of a daughter.

MARRIAGES.

CLARKE—BRYAN.—On March 6th, at Christ Church, Leicester, by the Rev. A. A. Isaacs, M.A., of Bath, assisted by the Rev. T. H. Austin, M.A., vicar of Queniborough, Charles Harold Clarke, M.B., B.S., of Northcote Villa, Uppingham-road, Leicester, third son of the Rev. Charles Clarke, B.A., of Ashby-de-la-Zouch, to Mary Louise, eldest daughter of C. F. Bryan, M.R.C.S., &c., Spa House, Leicester.

GILBERTSON—MCDOUGALL.—On March 9th, at Christ Church, Lancaster-gate, William Gilbertson, M.A., M.D., eldest son of Joseph Gilbertson, Evelyn-gardens, S.W., to Mabel Neal, daughter of Archibald McDougall, Orme-square, Kensington-gardens, W.

POWELL—PEACH.—On the 12th inst., at All Saints, Leaveaden, Herts, by the Rev. Wilfrid Robinson, B.A., vicar of Tadcaster, assisted by the Rev. Arthur Wilson, M.A., vicar of the parish, Cecil Powell, M.A., M.B. (Cantab.), Calverton Lodge, Stony Stratford, youngest son of C. Bollard Powell, of Southborough, to Emily, youngest daughter of the late W. H. Peach, Walngroves Hall, Derbyshire.

WALKER—WALKER.—On the 9th inst., at Christ Church, Streatham-hill, Herbert John Walker, M.R.C.S., L.R.C.P., of the Priory, Springfield-road, Brighton, to Ethel Marion Walker, of 8, Telford-avenue, Streatham-hill.

DEATHS.

OTWAY.—On Wednesday, March 13th, at 1, Pepys-road, Raynes Park, near Wimbledon, of pneumonia, Henry Carrol Otway, M.R.C.S., L.R.C.P. Lond., youngest son of the late C. W. C. Otway F.R.C.S. Eng., aged 41 years.

SNOAD.—On March 6th, at Albion House, Aylestone-park, Leicester, Edward Hemings Snoad, M.R.C.S., L.S.A., aged 70 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DISREPUTABLE ADVERTISEMENTS.

In spite of the publicity given to the trade of "Dr." Davis by recent legal proceedings to which we have referred, and in spite of our having called attention to the nature of "Dr." Davis's Pills, "a Boon to Womankind," the *People* continues to insert the advertisements of "Dr." Davis. The editor, or advertisement editor, if there be such a functionary on the staff of the *People*, also thinks fit to affix the heading "Medical Books" to the following list which appears in the same column as "Dr." Davis's advertisement:—

MEDICAL BOOKS.

ARISTOTLE'S GREAT WORKS, 447 pages, 2s., 465 pages, 2s. 6d.; coloured plates.—From T. P. Haines, Prospect-terrace, South Tottenham.

ON "NERVOUS DEBILITY" (so called) in MEN. By a SURGEON.—Published by Newnham and Cowell, 75, Chiswell-street, E.C. 1s., post free.

WHAT EVERY WIFE AND MOTHER SHOULD KNOW.—Send 4 stamps to Leslie Martyn, Ltd., Medical Booksellers 34, Dalston-lane, London.

ARISTOTLE'S GREAT WORKS, 2s. plain, 2s. 6d. coloured plates; Wife's Handbook, 7d.; list post free.—From P. Harvey, 255, Kingsland-road, London.

THE WIFE'S HANDBOOK, by Dr. H. A. ALLBUTT, D.C.L., LL.D., post free, 7 stamps. Also THE HUSBAND'S HANDBOOK, post free. 8 stamps. Or the Two for 1s. 2d., from T. P. REID, Discount Bookseller, West Green-road, London, N.

DR. FOOTE'S PLAIN HOME TALK. 1,248 pages, 400 illustrations, 18 coloured plates, 250 prescriptions; post free 8s. 6d.; prospectus free.—Leslie Martyn, Ltd., Medical Bookseller, 34, Dalston-lane, London.

Post Free Three Stamps.

A TREATISH on the Cure of Nervous and Physical Exhaustion in Men, Loss of Vital Power, and its accompanying diseases: their successful Cure by an entirely Original and Effective System of Treatment.—JAMES MURRAY, 7, Southampton-row, London, W.C.

We need hardly comment on the above except to point out once more that under the Indecent Advertisement Act of 1889 advertisements "relating to syphilis, gonorrhœa, nervous debility, or other complaint or infirmity arising from, or relating to, sexual intercourse" shall be deemed to be matter of an indecent nature if posted in a public place or in a public urinal, that their publication in a lay newspaper can hardly be claimed to be for the good of its readers, however profitable they may be to its proprietors and that there are many advertisements of this class, other than those we have cited, in the *People*.

"Dr." Davis still advertises in *Reynolds's Newspaper*, another weekly publication which as well as the *People* is read by the class of readers to whom such advertisements as those of "Dr." Davis are likely to appeal. *Reynolds's Newspaper*, however, inserts it in a slightly altered form and it appears as follows:—

FOR NEARLY 20 YEARS
DR. DAVIS'S FAMOUS PILLS
HAVE BEEN UNIVERSALLY ADMITTED TO BE A BOON TO WOMANKIND.

THEY are the best known remedy for Anæmia, Giddiness, Fulness and Swelling after Meals, Loss of appetite, Hysteria, Palpitation of the Heart, Debility, Depression, Weakness, &c. Boxes, 9½*d*., 1s. 1½*d*., 2s. 9*d*., and 4s. 6*d*. To be obtained from Chemists and Patent Medicine Vendors everywhere, or direct from
DR. DAVIS,
309, Portobello-road, Notting Hill, London, W.

From this we may perhaps conclude that the persons who supervise the advertisements of *Reynolds's Newspaper* have some regard for the risks which they may incur at the hands of the law. The advertisements which accompany that of "Dr." Davis in the same page negative any idea that the modification is due to regard for decency, while they suggest the manner in which "Dr." Davis's pills claim to be a "boon to womankind." The advertisements we have quoted are from issues dated March 3rd, 1901.

"ALL THE DIFFERENCE BETWEEN A LAWYER AND DOCTOR."

A CORRESPONDENT writes:—Your opinion on the facts stated below is asked for my guidance and for that of the firm of solicitors in question. In the autumn of 1898 I received a letter from a firm of solicitors at a distance asking me to give evidence in a case which was expected to end in a divorce respecting injuries inflicted by a husband upon his wife. This letter necessitated a search through the books of a practice held by me two years before. At least four letters were written, copies of which I now have. The case ended by some compromise and the firm of solicitors did not inform me of this. Some months after, hearing by chance that the case had been settled out of court, I sent a statement of fee, one guinea, due to me for the letters, &c., which I had written. The solicitors now raise objection to paying me on grounds part of which must be quoted for your comment. It reads: "In fact, we think it is somewhat unusual to charge for correspondence from a medical man." Half my fee has been offered which has been declined.

*** Our correspondent incloses two letters from the firm of solicitors. The first runs as follows:—

X *v.* X.

DEAR SIRS,—We had no idea whatever that you were going to charge for the information given us in this matter, as if you were the account should have been sent in at once when the matter was closed.

We have now no funds whatever out of which to pay this £1 1s., so must ask you to kindly abate the account.

In fact, we think it is somewhat unusual to charge for correspondence from a medical man.

Yours faithfully,

The second runs as follows:—

SIR,—We are surprised that you are not willing to meet us in this matter as most professional men would meet one another in a loss.

Legally speaking, we do not consider that you are entitled to any charge for correspondence telling us what you did for a Patient for whom we inquired years since.

You are simply entitled to charge for physic and attendances.

This is all the difference between a Lawyer and Doctor.

However, as you are not prepared to meet us, rather than prolong correspondence we send you our cheque for £1 1s.

Yours truly,

We have no hesitation in saying that the solicitors are completely wrong in every respect. They had no business to expect that help would be given to them gratuitously. They complain that the account was not sent in when the matter was closed and yet they omitted to tell our correspondent when that happy event occurred. They are surprised that our correspondent will not make them a present of a guinea; they consider that legally speaking he ought to work for them for nothing; and they finally arrive at the mystical conclusion that all the difference between a lawyer and a doctor is that the doctor is "simply entitled to charge for physic and attendances." Our correspondent's charge was a low one as well as a fair one and the solicitors did well to pay it. They would have done better to have paid it at once and gracefully.—ED. L.

OPHTHALMIC STUDY IN VIENNA.

To the Editors of THE LANCET.

SIRS,—I intend going to Vienna in April for some months to study the eye. Would anyone who has been there kindly let me know (1) if the eye clinics go on all summer; (2) the hours and fees; and (3) where one could apply for a list of respectable apartments. I suppose summer is a good time to go to Vienna?

I am, Sirs, yours faithfully,
March 12th, 1901. VIENNA.

THE PROFESSIONAL GUIDE TO A QUACK.

To the Editors of THE LANCET.

SIRS,—Can an obvious quack legally retain on his staff "a duly qualified and experienced physician," and by advertising in the book he publishes that all communications requiring medical advice are not only submitted to, but are also under the personal supervision of this individual, thus induce people to part with their money for his so-called "remedy"? What steps can be taken to discover the identity of this "duly qualified physician," so that such conduct (which looks to me very like "covering" or associating with a pernicious quack swindle) may be inquired into by the proper authorities? On the other hand, if it be proved that there is, as a matter of fact, no one connected with the concern I refer to entitled to use the description of "duly qualified physician" as represented, and that the medical advice, both personally and by letter, is given by a gentleman whose highest qualification is "patent medicine vendor," what, then, is the proper remedy to prevent the "specialist" in question from carrying on his fraud by inducing people to place confidence in him by these false statements? Is the mere visiting (every few weeks) of a man supposed to be struck off the Register (if ever he was qualified to be on it), and as a matter of form putting his name to certain papers, sufficient to justify the statements published and enable the quack to evade the law and carry on his swindle with impunity? The favour of your advice will greatly oblige as I am in a position to disclose such information and details concerning a quack firm which, if made public, would prevent people throwing their money away on rubbish (at the best acidulated coloured water) and being gulled into believing that they are getting qualified medical

advice when they are only the dupes of an ignorant quack or worse. If this is not a subject you can afford the time or trouble to take up and investigate, can you kindly suggest a likely quarter where the matter may receive the attention it deserves for the protection of the public and the profession.

I am, Sirs, yours faithfully,

March 6th, 1901. AVIS.

*** If our correspondent will forward to us the information and details to which he refers we shall be in a position to answer his questions.—ED. L.

"MEMORIAL TO THE LATE DR. ARCHIBALD HAMILTON JACOB."

SUBSCRIPTIONS will be thankfully acknowledged by the following committee:—Sir Christopher Nixon (President of the Royal College of Physicians of Ireland), Mr. Thomas Myles (President of the Royal College of Surgeons in Ireland), Sir John Banks, K.C.B., Sir John William Moore, Sir William Thomson, Sir W. Thornley Stoker, Sir Charles A. Cameron, C.B., Sir Francis R. Cruise, Mr. A. O. Speedy, Dr. Lombe Atthill, Mr. Henry Gray Croly, Mr. Henry Gregg Sherlock, Dr. Stewart Woodhouse (General Prisons Board), Mr. Austin Meldon, D.L., Dr. Henry W. Oulton, Dr. Richard J. Kinkead (Galway), Dr. George M. Foy, Mr. I. Usher, Dr. H. MacNaughton Jones, Mr. A. A. Tindall, and Dr. M. J. Malone.

Amount already announced in THE LANCET—£259 6s. 0d.

	£	s.	d.		£	s.	d.
Rev. D. S. Maclean ...	5	0	0	Mr. W. Taylor...	1	1	0
Dr. J. T. Creery	1	1	0	Mr. A. Greene...	1	1	0
Dr. R. Counihan	1	0	0	Dr. C. S. Kilner	1	1	0
Mr. W. G. Jacob	2	2	0	Brigade-Surgeon H. A. Gibbon	1	1	0
Mr. T. H. Croly	1	1	0				
Dr. E. J. Doyle	1	0	0	Mr. T. M. McIlvoy... ...	1	0	0
Mr. M. W. Fisher	1	1	0	Mr. H. B. S. Montgomery	2	2	0
Dr. J. R. Barker	1	1	0	Mr. R. T. Huston	1	0	0
Dr. P. J. Hayes	2	2	0	Mr. A. T. Norton	5	0	0
Dr. R. H. Woods	2	2	0	Mr. T. Morgan	2	2	0
Mrs. Carroll	3	0	0	Mr. G. P. O'Beirne... ...	1	1	0
Dr. H. R. Hadden	2	2	0	Mr. J. Connell...	0	10	0
Lady Porter	2	0	0	Mr. E. Moran	1	1	0
Mr. H. T. Warnock ...	1	1	0	Mr. G. Marshall	0	10	6
Colonel W. T. Martin ...	1	1	0	Mr. T. Moore	1	1	0
Mr. G. J. Goldie	2	2	0	"A Friend" (anonymous)	10	10	0
Mr. G. N. Dunn	1	1	0	Mr. A. W. Baker	1	1	0
Brigade-Surgeon Lieut.-Colonel F. Johnson ...	2	2	0	Mr. G. U. Macnamara ...	1	0	0

Cheques and postal orders are to be made payable to the honorary treasurers (Sir Charles A. Cameron, C.B., 51, Pembroke-road, Dublin, and Mr. L. H. Ormsby, Vice-President of the Royal College of Surgeons in Ireland, 92, Merrion-square, Dublin), and crossed "Ulster Bank." The honorary secretary is Mr. George F. Blake, J.P., Registrar of the Royal College of Surgeons, Dublin.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Could you or any of your readers tell me of any private institution which would take and treat a severe attack of chorea?

I am, Sirs, yours faithfully,

W. LANGWORTHY BAKER, M.R.C.S. Eng., &c.

Moorcote, Bversley, Winchfield, March 10th, 1901.

AN ETHICAL POINT.

To the Editors of THE LANCET.

SIRS,—A has sold his practice to B. A was always looked upon as one of the "black sheep" by his low fees and other actions. B is following in his footsteps. C and D are the other medical men in the place and charge the ordinary fees of the district and are on the best of terms. B called on both on his taking over A's practice. C tried to persuade B to join with D and himself to form an ethical compact and fix fees, &c., and so work amicably together. B would not fall in with the proposal and is following on the same lines as his predecessor. C has not returned B's call and does not recognise B, nor did he A, professionally. D does by way of consultations and the like. Which of the two acts up to the recognised but unwritten laws of our profession? What would be the most feasible way to get each to a better understanding?

I am, Sirs, yours faithfully,

March 8th, 1901. GENERAL PRACTITIONER.

*** On the information laid before us in the above letter we should say that C's course of conduct is the better—that is to say, presuming that B acts unprofessionally in other ways than by lowering his fees.—ED. L.

"ARE THERE PINS WITH REMOVEABLE POINTS?"

To the Editors of THE LANCET.

SIRS,—In reply to a letter under the above heading in THE LANCET of March 2nd, p. 675, signed "Bandage," I do not think he will find pins "with removeable points," but why not remove the points himself with wire nippers? Such can be had in small size (as used by watch and clock makers) and if carried in the pocket will be always at hand when required. Better "see the point" than feel it.

I am, Sirs, yours faithfully,

March 11th, 1901. NIPPERS.

Jockey.—The resident within the district should not attempt to supersede the holder of the appointment without giving him notice of his intention.

L.R.C.P., L.R.C.S. is not recommended to apply for the post. See answer in our last issue to "A Subscriber to THE LANCET since 1868."

Centralisation.—When so many larger matters require to be dealt with we are not disposed to lay stress on the points.

Anxious.—We do not give medical advice. Our correspondent should consult his usual medical attendant.

Rusticus.—The dose of tuberculin for an average sized cow is three cubic centimetres—i.e., about 50 minims.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (18th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Dr. J. Mitchell Bruce: Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. Lecture II.—General and Differential Diagnosis. General Pathology and Pathogeny. (Lettsomian Lectures.)

TUESDAY (19th).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Dr. W. Bulloch: The Action of Lysogenic Sera.—Prof. Wright and Major Leishman: Observations on the Bactericidal Action of the Blood.—Mr. Seligmann: Filariasis in British New Guinea.

CHELSEA CLINICAL SOCIETY (Jenner Institute of Preventive Medicine, Grosvenor-road, Chelsea).—8.30 P.M. Annual Clinical Debate:—The Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Infective Rheumatism. The following, amongst others, will take part in the debate: Dr. R. T. Hewlett, Mr. Arbuthnot Lane, Dr. Armstrong (Buxton), and Sir Dyce Duckworth (who will deliver the closing address).

ROYAL STATISTICAL SOCIETY (9, Adelphi-terrace, Strand, W.C.).—5 P.M. Paper:—Dr. J. F. J. Sykes: The Results of State, Municipal, and Organised Private Action on the Housing of the Working Classes in London and in other Large Cities in the United Kingdom. (Howard Medal Prize Essay.)

WEDNESDAY (20th).—ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Great George-street, S.W.).—7.30 P.M. Dr. H. R. Mill: Climate and the Effects of Climate (illustrated by lantern slides).

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Mr. W. H. Merrett: Demonstration on the Metallography of Iron and Steel (with lantern illustrations).

THURSDAY (21st).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Clinical Evening.

NEUROLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Clinical Evening. Cases will be shown by Dr. F. E. Batten, Dr. Colman, Dr. Risien Russell, Dr. W. G. Harris, Dr. E. F. Buzzard, and others.

CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—8 P.M. Dr. W. H. R. Rivers: Experimental Psychology and the Study of Childhood.

FRIDAY (22nd).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Continued Discussion on the Recent Epidemic of Typhoid Fever among the Troops in South Africa.

ERRATUM.—We regret that in our issue of March 9th, in the Diary, the hour of meeting of the Society for the Study of Disease in Children on Friday 15th, was wrongly given as 6.30 P.M.; it should have been *8.30* P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: The Protection and Nourishment of the Young of the Vertebrata, and some New Additions to the Museum.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Ball: Some Common Throat Affections.

TUESDAY (19th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Sir W. Broadbent: Consultation. (Medical.)

THE BROWN ANIMAL SANATORY INSTITUTION (University of London, South Kensington, S.W.).—5 P.M. Dr. J. Rose Bradford (Professor-Superintendent): The Protozoa in their Relation to Disease, with especial reference to the so-called Tsetse-Fly Disease of South Africa.

WEDNESDAY (20th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: The Protection and Nourishment of the Young of the Vertebrata, and some New Additions to the Museum.

LONDON THROAT HOSPITAL (204, Great Portland-street, W.).—5 P.M. Mr. Waggett: Diseases of the Accessory Sinuses. (Post-Graduate Course.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. H. Mackenzie: Asthma.

THURSDAY (21st).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. J. F. Payne: On Cancer, especially of the Internal Organs. (Lumleian Lectures.)

LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—2 P.M. Dr. S. Fenwick: Clinical Demonstration.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Consultation. (Surgical.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Voelcker: Demonstration of Whooping Cough and its Complications.

THE HOSPITAL FOR DISEASES OF THE SKIN (Stamford-street, Blackfriars).—3 P.M. Clinical Demonstration: Dr. P. S. Abraham.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Bidwell: The Surgical Anatomy of the Stomach.

FRIDAY (22nd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. C. Stewart: The Protection and Nourishment of the Young of the Vertebrata, and some New Additions to the Museum.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. W. H. Work Dodd: Consultation. (Eye.)

LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—2 P.M. Dr. P. Parkinson: Clinical and Pathological Demonstration.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 14th, 1901.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 8	29·66	N.	0·20	74	45	38	41	42	Cloudy
,, 9	30·24	N.E.	0·11	83	44	37	38	39	Cloudy
,, 10	30·21	N.E.	...	69	44	36	34	38	Cloudy
,, 11	29·90	N.E.	...	75	47	32	33	34	Overcast
,, 12	29·96	N.W.	...	65	54	34	41	42	Overcast
,, 13	30·09	N.E.	...	49	44	36	38	39	Overcast
,, 14	29·92	N.E.	...	63	45	38	40	40	Overcast

During the week marked copies of the following newspapers have been received:—*Lincoln Gazette, Manchester News, Express (Notts), Stafford Advertiser, Dundee Advertiser, Cardiff News, Preston Post, Burton Evening Gazette, Glasgow Herald, Weekly News (West Bromwich), Midland Evening News (Wolverhampton), Newcastle Chronicle, Liverpool Daily Post, Bournemouth Guardian, Derbyshire Courier, Greenock Herald, Bury Guardian, Sussex News, Spalding Free Press, Leeds Mercury, Cheltenham Press, Hyde Reporter, Derby Times, Ipswich Times, Kentish Express, Birmingham Gazette, Oxford Journal, Scotsman, Norwich Press, Builder, Architect, Citizen, Pioneer Mail, Bristol Mercury, Yorkshire Post, Hong-Kong Telegraph, Sydney Morning Herald, Siam Free Press, Madras Standard, Daily Gleaner, Blackpool Gazette, Limerick Chronicle, Brighton Gazette, Morecombe Telegraph, Bath Chronicle, Walton Gazette, Bombay Gazette, Dorset County Chronicle, Sanitary Record, Surrey Advertiser, Mining Journal, Local Government Chronicle, Local Government Journal, Reading Mercury, Hertfordshire Mercury, Consett Guardian, Fife Herald, Luton News, Hitchin Journal, Tunbridge Wells Advertiser, Journal of Horticulture, Inverness Courier, Evening Post and Bulletin (Wellington, Australia), Chicago Packer, Daily Chronicle, Express (Whitby), Kettering Guardian, Durham Mercury, League Journal, Barnsley Chronicle, Times of India, Shipley Express, Warwickshire Times, Bucks Herald, Clitheroe Advertiser, Lloyd's Rugby Advertiser, Kent and Sussex Advertiser, Jackson's Journal (Oxford), &c., &c.*

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It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1900, which was completed with the issue of Dec. 29th, and the Title-page to the Volume were given in THE LANCET of Jan. 5th.

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